

One Dollar a Year.

654.
Single Copies, 10 Cents.



Vol. II.

No. 10.



PHONOGRAPH

A MONTHLY MAGAZINE

DEVOTED TO

THE SCIENCE OF SOUND . .

AND

.. RECORDING OF SPEECH.

PUBLISHED BY

THE NATIONAL PHONOGRAPH PUB. CO., L'D.
WORLD BUILDING, NEW YORK.

COPYRIGHTED, 1891, BY V. H. McRAE.

THE "EDISON RECORDS"

MANUFACTURED EXCLUSIVELY FOR THIS COMPANY AT

ORANGE, N. J.

The very highest class of
Talent and Skill are com-
bined in producing
records of

BANDS,

ORCHESTRAS,

CORNETS,

CLARIONETS,

PICCOLOS,

BANJOS,

PIANOS,

VOCALISTS.

New Selections and
varieties will be added
constantly. Send for our

APRIL 1st, 1892.

BULLETIN No. 1.

THE

North American Phonograph Co.

LIST OF

MUSICAL RECORDS

FOR THE

PHONOGRAPH.

NOTE.—These records we furnish only
to or through our authorized Agents.

ALL SELECTIONS SHOULD BE
ORDERED BY NUMBER.

THE PHONOGRAM.

THE OFFICIAL ORGAN OF THE PHONOGRAPH COMPANIES OF THE UNITED STATES.

VOL. 2.

OCTOBER, 1892.

No. 10

TABLE OF CONTENTS.

	PAGE.		PAGE
Campaign Oratory Made Easy.....	212	Reading Notices.....	232
Decision of a Great Suit in Favor of Mr. Thomas A. Edison.....	224	The Imaginary and the Real Phonograph.....	205
Dictators and Dictation.....	218	The Kinetograph	217
Emile Reynier, the Eminent French Scientist.....	222	The Perfected Phonograph.....	209
Personals.....	231	The Phonograph Exhibit at the American Institute Fair.....	220
Phono Chat.....	230	The Typewriter.....	226
Phonographs for the Blind	215	The Use of the Phonograph.....	207
		Utility of the Phonograph	212

NEW YORK PHONOGRAPH CO.,

257 FIFTH AVENUE, NEW YORK CITY.

Phonographs and Graphophones Rented for Business Purposes, for Family Use, and for Exhibitions.

Please Note the Fact that

BANKERS,
BROKERS,
LAWYERS,
STENOGRAPHERS,
MERCHANTS,
PHYSICIANS,
TYPEWRITER OPERATORS,

and other professional and business men find these instruments indispensable, and enable them to get out their correspondence and other matter in one half of the time formerly required.

In the family circle and for public entertainment, these machines are an endless source of pleasure. Music of all kinds is faithfully reproduced, and the voices of friends, professional singers and instrumental music of all kinds can be stored up and repeated on these instruments as often as desired.

Call and hear these instruments, or send for circulars, pamphlets, and terms.

THE STENOGRAPHER—The leading shorthand magazine. Francis H. Hemperley, author of "Analogical Syllabic Shorthand," Editor; Bates Torrey, author of "Practical Typewriting," Associate Editor. Specimen copy free. THE STENOGRAPHER PUBLISHING CO., 38 South Sixth Street, Philadelphia, Pa.

"SHORTHAND" is a pamphlet of information, by the editor of *Browne's Phonographic Weekly*, that tells how to learn the art in the shortest time. Sent free by addressing D. L. SCOTT-BROWNE, 251 West Fourteenth Street, New York.

ii

Bradbury-Stone Storage Battery Company,

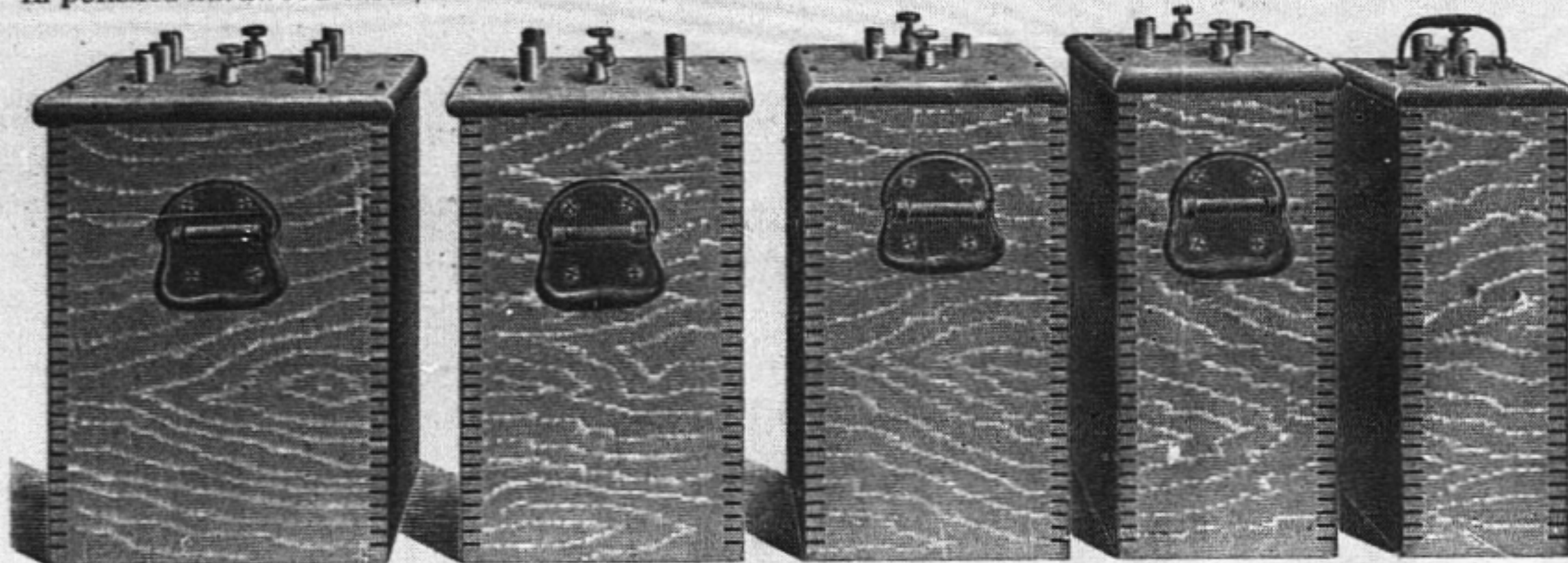
LOWELL, MASS.

The Ideal Storage Battery for Electric Lighting and Power,

Phonographs, Sewing Machines, Coffee Mills, Fan Motors,
Surgeons' and Physicians' Uses, Etc.

Cabinet Form.

In polished hardwood cases, fitted with handles and brass binding posts, fully charged and hermetically sealed.



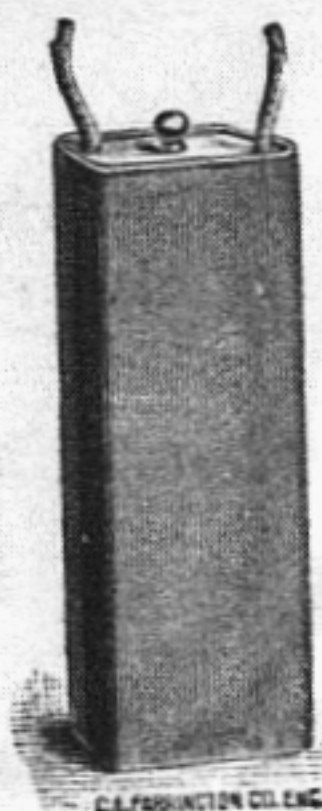
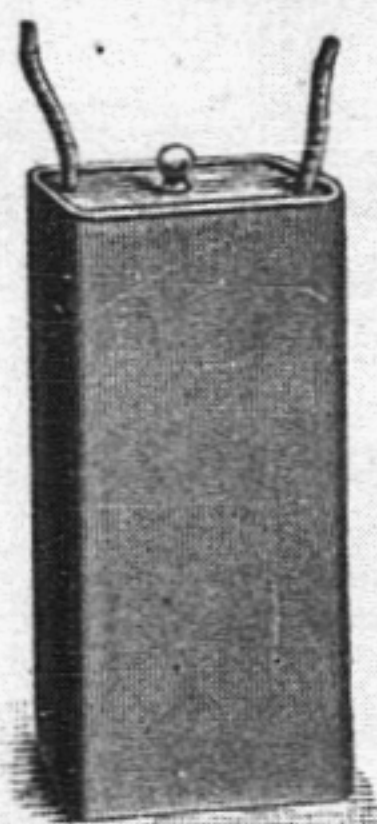
C.E. FARRINGTON CO. ENG. BOSTON

Voltage from 2 to 10.

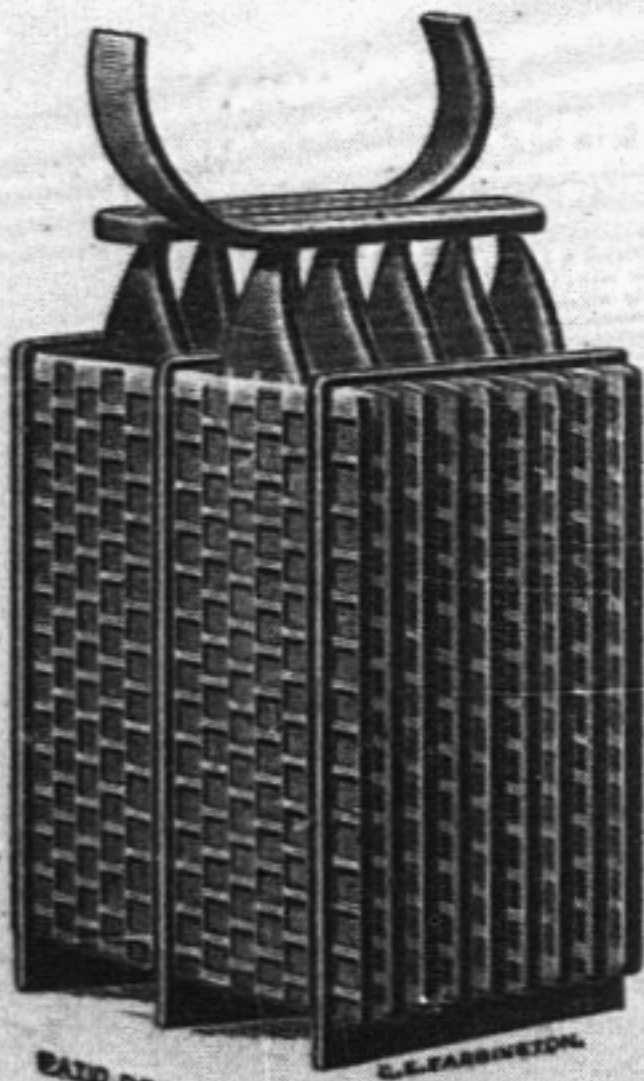
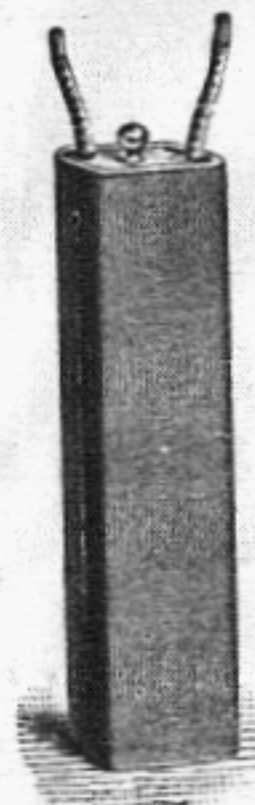
Handles on sides, or top of cases as desired.

Hard Rubber Cells.

Set up in the Best Quality Hard Rubber Jars, sealed and fully charged.



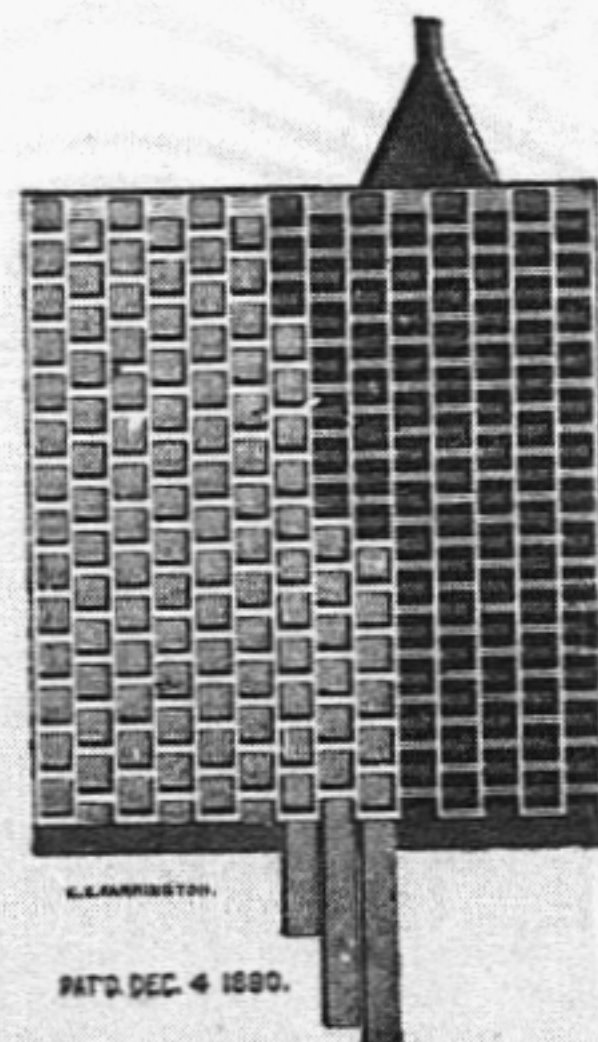
C.E. FARRINGTON CO. ENG.



PAT'D. DEC. 4 1890.

C.E. FARRINGTON

Any size and capacity.
The lightest and most efficient battery ever placed on the market.
Its durability remains unquestioned.
In use by nearly all the leading Phonograph Companies in the country.
Correspond with them and get their opinions.
Send for circular.



C.E. FARRINGTON

PAT'D. DEC. 4 1890.

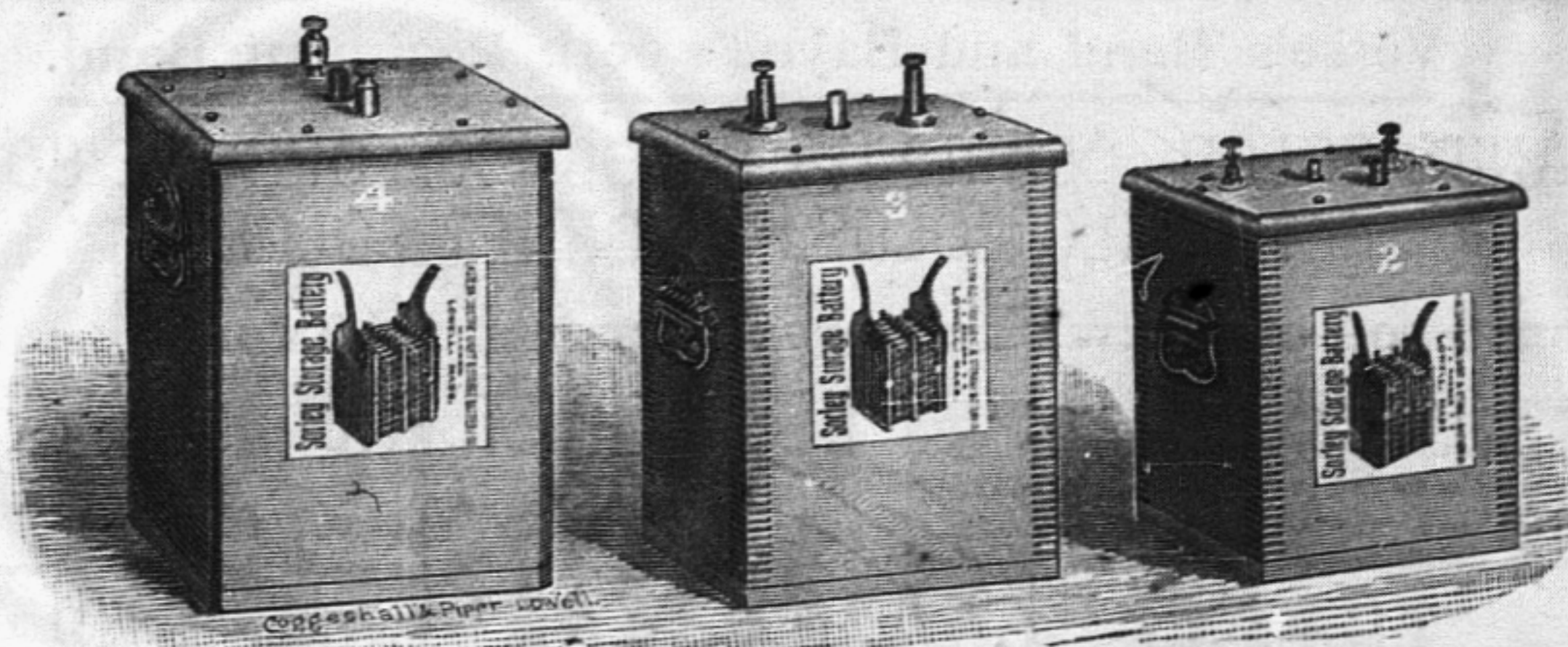
* THE EASTERN * Electric Light and Storage Battery Company,

LOWELL, MASS.,

MANUFACTURERS OF THE

NEW "SPECIAL SORLEY" STORAGE BATTERY

With all the Latest Improvements,
in Polished Cabinet Cases.



**ADOPTED BY THE PHONOGRAPH CONVENTION, NEW YORK, AS THE
STANDARD BATTERY FOR PHONOGRAPH PURPOSES.**

IN USE BY

THE NEW ENGLAND PHONOGRAPH COMPANY.

STATE PHONOGRAPH COMPANY, ILLINOIS.

TEXAS PHONOGRAPH COMPANY.

SOUTH DAKOTA PHONOGRAPH COMPANY.

MONTANA PHONOGRAPH COMPANY.

HOLLAND BROS., OTTAWA, General Agents for Canada.

No. 4	Cell	will run a Phonograph from 120 to 150 Hours on a Single Charge.	Price \$14.00
" 3	"	" " " 100 to 120 "	" \$13.00
" 2	"	" " " 75 to 80 "	" \$11.00

**Based on a discharge of Three Amperes, a Phonograph
in good order takes Two and One-Half Amperes.**

We guarantee our Phonograph Cell to have a greater capacity per pound of element, to have a greater capacity in proportion to its bulk, and to outlast any other storage battery in the market. Hundreds of our batteries are in use all over the country.

Dynamos for charging one or two cells in series of 15 amperes rate : price \$35.00, size $8\frac{1}{2}$ x $7\frac{1}{2}$ x 9 inches high, weight 40 lbs.

Gilmore's Band.

MANHANSETT QUARTETT.

Vocal Solos by . . .

SPENCER, JOHNSON, ASBURY, DIAMOND,
QUINN, SIMONDS, WILY WILLIAMS,
JOHN P. HOGAN, LIPP, GASKIN, CLARENCE,
BATT AND OTHERS.

Isslen's Orchestra, Gilmore's Band, Holding's Band,

Vosse's Band and Bayne's 69th Regiment Band.

BANJO SOLOS, CLARINET SOLOS, XYLOPHONE SOLOS,
PICCALO SOLOS, CORNET SOLOS.

SEND FOR OUR NEW CATALOGUE TO BE ISSUED OCTOBER 1st, 1892.

Notice:—We do not sell direct to individuals outside of our own territory. All orders for records made by us must be given through the various sub Companies. All records guaranteed.

NEW JERSEY PHONOGRAPH CO.,
NEWARK, N. J.

The "Brudder Rasmus Sermons"

As delivered by LOUIS VASNIER,

For the Louisiana Phonograph Company.

The following sermons are kept in stock and can usually be supplied at short notice.

"ADAM AND EVE." "JOB."
"END OB DE WORL'." "SINNERS."
"CHARITY OB DE HEART." "MOSES AND HIS TRIBE."
"WHY YOU ARE BLACK."

These sermons, while very humorous, are characteristic Negro delineations and are faithful reproductions of a dusky style of pulpit oratory that is rapidly passing away. The sermons are very popular amongst both whites and blacks and have proved to be among the most profitable of exhibition records.

All records are clear and distinct. Any imperfect records may be exchanged.

THE LOUSIANA PHONOGRAPH CO., L't'd.
128 Gravier Street, New Orleans, La.

V

Scientists and Experts say: "Deafness can be Cured by the Phonograph."

Secure a set of prepared cylinders and you will not long be in doubt as to their efficiency. Made with the finest of steel tools in a machine especially constructed for the purpose. Every cylinder cut with absolute accuracy, consequently the best results are obtained.

Inventor of the only process for making brass or other metal records using the Phonograph as it is not constructed and without change in any way.

C. FRANCIS JENKINS,
900 K St., N. W., Washington, D. C.

Manufacturer of the finest phonograph bells for - arning the dictator of the approach to the end of the cylinder. They are literally "out of sight."

GEORGE A. HILL, MANAGER.

THE TYPEWRITER EXCHANGE,
CALIGRAPH
BUY, SELL, EXCHANGE & RENT
REMINGTON, HAMMOND & OTHER
TYPEWRITING MACHINES.
SUPPLIES OF STANDARD QUALITY. **10 Barclay Street,**
NEW YORK.



**REGULATE THE
STOMACH, LIVER AND BOWELS,
AND
PURIFY THE BLOOD.**

A RELIABLE REMEDY FOR

Indigestion, Biliousness, Headache, Constipation, Dyspepsia, Chronic Liver Troubles, Dizziness, Bad Complexion, Dysentery, Offensive Breath, and all disorders of the Stomach, Liver and Bowels.

Ripans Tabules contain nothing injurious to the most delicate constitution. Pleasant to take, safe, effectual. Give immediate relief.

Sold by druggists. A trial bottle sent by mail on receipt of 15 cents. Address

THE RIPANS CHEMICAL CO.
10 SPRUCE STREET, NEW YORK CITY.

RESTORE YOUR EYESIGHT

Cataracts, scars or films can be absorbed and paralyzed nerves restored, **without the knife or risk.** Diseased eyes or lids can be cured by our **home treatment.** "We prove it." **Hundreds convinced.** Our illustrated pamphlet, "Home Treatment for Eyes," free. Don't miss it. Everybody wants it. "THE EYE," Glens Falls, N.Y.

Owing to the many inquiries received by us daily as to where Phonographs can be purchased, we beg to present below a list of our authorized agents, each exclusive for the district named, who offer

Phonographs ^{AND} Supplies for Sale.

<i>Agent's Name and Address.</i>	<i>Territory.</i>
NEW ENGLAND PHONOGRAPH CO., 657 WASHINGTON ST., BOSTON, MASS.	NEW ENGLAND STATES.
WISCONSIN PHONOGRAPH CO., 414 BROADWAY, MILWAUKEE, WIS.	WISCONSIN.
PACIFIC PHONOGRAPH CO., 323 PINE ST., SAN FRANCISCO, CAL.	CALIFORNIA, ARIZONA, NEVADA.
OHIO PHONOGRAPH CO., 220 WALNUT ST., CINCINNATI, O.	OHIO.
COLUMBIA PHONOGRAPH CO., 627 E ST., N. W., WASHINGTON, D. C.	MARYLAND, DELAWARE, AND DIST. COLUMBIA.
MONTANA PHONOGRAPH CO., GRANDON BLOCK, HELENA, MONT.	MONTANA.
KENTUCKY PHONOGRAPH CO., 256 FIFTH ST., LOUISVILLE, KY.	KENTUCKY.
GEORGE W. GRANT, STATE AGENT, P. O. BOX 16, NASHVILLE, TENN.	TENNESSEE.
LOUISIANA PHONOGRAPH CO., 27 EQUITABLE BUILDING, NEW ORLEANS, LA.	LOUISIANA.
MISSISSIPPI STATE PHONOGRAPH AGENCY, 27 EQUITABLE BUILDING, NEW ORLEANS, LA.	MISSISSIPPI.
LEEDS & COMPANY, STATE AGENTS, IND.	INDIANA.
WESTERN PA. PHONOGRAPH CO., 146 FIFTH AVE., PITTSBURGH, PA.	WEST VA. AND WEST- ERN PART OF PENNA.
MISSOURI PHONOGRAPH CO., TELEPHONE BLDG., ST. LOUIS, MO.	MISSOURI, ARK. AND INDIAN TERRITORY.
TEXAS PHONOGRAPH CO., 2209 POST OFFICE STREET, GALVESTON, TEX.	TEXAS.
NEBRASKA PHONOGRAPH CO., OMAHA, NEBRASKA.	NEBRASKA.
HOLLAND BROTHERS, OTTAWA, ONTARIO, CANADA.	CANADA AND ALASKA.

For terms, conditions of sale, or Illustrated Catalogue of the machines and supplies, send stamp with inquiry to the company or agent in whose territory you contemplate using the machine, or to

**The North American Phonograph Company,
44 BROAD ST., NEW YORK CITY.**



A. O. TATE,
Vice-President of the North American Phonograph Company.



A MAGAZINE devoted to all interests connected with the recording of sound, the reproduction and preservation of speech, the Telephone, the Typewriter, and the progress of Electricity.

PUBLISHED MONTHLY.

TERMS:

ONE YEAR.	\$1.00
SINGLE NUMBERS,	.10

Postage Prepaid.

V. H. McRAE, Manager,
Pulitzer Building, Room 87. NEW YORK.

ADVERTISEMENTS.

THE PHONOGRAM, having special facilities in its circulation through the vast commercial system occupied by the Phonograph, Telephone, and other Electrical Devices, presents an exceptionally valuable advertising medium. The rates are reasonable and will be furnished on application.

CORRESPONDENCE

relating to the Phonograph, Typewriter, or Electricity, in any of their practical applications, is cordially invited, and the coöperation of all electrical thinkers and workers earnestly desired. Clear, concise, well-written articles are especially welcome; and communications, views, news items, local newspaper clippings, or any information likely to interest electricians, will be thankfully received and cheerfully acknowledged.

New Vice-President.

Mr. A. O. Tate has just been elected vice-president of the North American Phonograph Co. Mr. Tate has entered a field thoroughly familiar to him, having been connected with Mr. Edison for many years, in positions of responsibility, the duties of which he performed with such exactness and fidelity that promotion has followed, and he now stands with the heads in the management of this great enterprise.

In securing the valuable services of our new vice-president, all who are interested in the phonograph may be congratulated.

The portrait of Mr. Tate herewith presented, is an excellent likeness. His Anglo-Saxon birth betokens great staying powers, and his knowledge of the work carried on in the laboratory at Menlo Park fits him admirably for this position.

The Imaginary and the Real Phonograph.

Much has been said and written in regard to the phonograph, and its marvelous capacities have been so largely descanted upon, while its construction and actual powers are so little understood, that the imaginations of the multitude run riot on the subject and ascribe to the instrument human and superhuman powers.

Mr. A. W. Clancy, president of the National Phonographic Association, recently made this topic a theme for the enlightenment of a group of listeners at the Hotel Cadillac, in Detroit, Michigan, and as his exposition of the subject was both forcible and humorous, we lay it before our readers:

"The machine cannot do everything. It cannot report the proceedings of a young ladies' sewing society, nor can it follow up the rapid elocution of some lawyers. It cannot travel round and carry the minister's sermon to his congregation every Sunday morning. It can call out "front" for a hotel clerk as loud and long as he pleases, but it cannot deliver the key of a room, or tell a lady where to get stamps, or impart all the necessary information required by guests at a hotel; but it is a faithful servant and will conduct business like a setting hen, and never strike for higher wages."

These simple words are intended for the bene-

fit of the people at large, and are always effective. To these observations, we add the following explanations, thrown out to reach the new subscribers and readers of **THE PHONOGRAM**, who, as yet, are not informed about the mechanism of this instrument.

The phonograph borrows from man two important functions, those of speech and writing; that is, it repeats and records. Its construction enables it to catch the waves of sound entering through the tube, whether they be words, music, or any other form of sound, and echo them. When a waxed cylinder is attached to the phonograph and certain adjustments are made, it will repeat all sounds directed towards the diaphragm, and these vibrations move a stylus or needle which stamps the movement upon the surface of the waxed cylinder.

To all persons unacquainted with the operation of the instrument, we state that it only reflects and copies the sound which man forces it to reproduce.

All sounds of every kind and character may be treasured up in these extraordinary machines and reproduced—not once—but a thousand times and may be mechanically duplicated and multiplied to any extent.

An Essay on the Typewriter by an Eminent Authority.

We commend to our readers in general, and to parents and children in particular, the article by Mr. Yost on the subject of typewriters, in this issue. He has given to this country a great variety of models of that machine and justly deserves the title of "Father of the Typewriter."

More than that, he now takes the pains to write, for the instruction of this and coming generations, a sort of practical essay on business, which will be for parents and their offspring "a lantern unto their path." This is purely a labor of love on his part, for his success in business has been such that he does not need encomiums.

Mr. Yost sees the important functions that the phonograph performs in connection with the typewriter and does not hesitate to pronounce eulogies on the machine that talks.

Our General Manager in Chicago.

The tariff and the State bank issue may attract the attention of common mortals at present, but the Western phonograph companies are much more interested in the presence and doings of Mr. Lombard in Chicago.

The Phonograph in Business.

Intelligence from the Texas Co. shows us that the interests of the phonograph are being pushed with assiduity in that region. Mr. Thomas R. Conyngton, general manager of the Texas Co., receives reports as to progress from five of the principal cities and towns, and all are enthusiastic in praise of it. Some of the writers state the amount of work that can be transacted by the aid of the phonograph, others order more instruments, and again certificates of the satisfaction it has given come in from various firms.

All of which shows that Mr. Conyngton appreciates the necessity of communicating facts like these to headquarters; and that he is himself most energetic and far-seeing in his own methods.

Never on Sale Before.

As astronomers watch from time to time the planets that come within the range of their vision, to ascertain what changes take place on their surface, so do the eyes of our country, men turn with eagerness to the great luminary who has, after Franklin, done more to familiarize man with the unseen, potent elements of nature and subject them to his control, than any other American. It is well to assign him a place beside Columbus; for if the great discoverer succeeded in finding another world, the savant Edison has elevated it and conferred upon it a new title to usefulness and universal consideration.

We have a planet of the first order revolving majestically in its orbit within range of our perceptive faculties, whose appearance we are constantly tempted to scrutinize, and in which every American takes a personal pride and interest. Everyone who has any degree of patriotism will take occasion to secure a portraiture of this world-wide "notability," and we believe will appreciate the information we here impart that through the influence of a friend of **THE PHONOGRAM**, photographs of Mr. Edison can be obtained from the office of that magazine.

They consist of portraits of this gentleman, taken at different ages, from four years old upwards, of his mother, of his birthplace, his present home, library, laboratory, and workshops. *These are all copyrighted and cannot be duplicated.*

Additional portraits of Mr. Edison will appear from time to time, taken while at work in various departments of the laboratory.



THE USE OF THE PHONOGRAPH.

AUGUST N. SAMSON.

THE Americans are proverbially quick-witted and they apply with great facility their inventive and perceptive faculties to the constructing and perfecting of machinery. But with regard to their methods of conducting business correspondence, they are largely at fault. The question is asked, Why? And I herein propose to throw some light upon this defective policy on their part.

The phonograph, as all intelligent persons know, records and repeats;—therefore it performs in an office exactly the part an individual plays. Its work is transacted much more faithfully than a man's, it costs much less to rent a phonograph than to employ an amanuensis, and no time is lost in conversation of any kind. The fact that it is not more generally used is due to many causes. The first of these is the well-known reluctance of business people to make any change in their *modus operandi*.

Why the phonograph has not been introduced to a greater extent in commercial houses is, I think, mainly due to the fact, that its marvelous amusement

side has educated the public into the fallacy of believing that it was only a wonderful toy; and the business community has settled down to this conclusion. If the business men would give a few minutes' time to those who are trying to educate the public in the commercial use of the phonograph, they would soon be convinced of its great capacity as a labor and time saver, and would say of it, as of the typewriter, "we have here an invention for which every man, woman and child should offer up a thanksgiving."

Now, as to a view of the question in connection with stenography. All heads of commercial houses know the difficulty of obtaining competent stenographers; not over five in a hundred are entitled to assume that appellation. We do not allude to experts who report for the courts, the lecture-room, the church; but to the majority of those pupils leaving stenographic schools who are turned out as stenographers. Will not any reader versed in commercial methods bear me out in the statement that frequently the person who dictates finds errors in the transcription of shorthand notes, and upon calling it to the attention of the stenographer is told, "Why, here are my notes."

I will leave it to my commercial reader if it is not a fact that on many occasions matter dictated to the stenographer must be corrected; there are such a great variety of stenographic characters that one must possess not only a good memory, but acute perceptions to distinguish each, because in many of these signs the difference is so trifling that it passes unobserved, yet when not understood makes a vast difference in the meaning of the "copy." The dictator looks at the transcriber to see if the latter has caught the meaning, and when challenged, cannot controvert the assertion, because he is unacquainted with these differences in signs that go to make the difference in meaning.

Now let us compare such work as that (and I am not overstating the case) with work done by the *phonograph*, for the purpose of demonstrating to stenographers, as well as business men, a method of doing more work and doing it better in a given time.

The person, called the corresponding clerk, who is left in charge of an immense correspondence, finds it necessary on an unusually heavy day to keep work going on, and just at this time the stenographer finds that he is obliged to go to lunch. Or perhaps the stenographer lives out of town, the train is belated, and instead of getting to the office at nine o'clock, he does not arrive till half-past nine. What is the result? Members of the firm are obliged to leave at five o'clock; by these mishaps the correspondence is hurried through in an unsatisfactory manner or else left unfinished. The other view of the case shows an office equipped with a phonograph that a boy ten years old, with ordinary ability, can run correctly. The employer comes in at eight o'clock in the morning, opens his mail, and, as fast as opened, dictates the answer to the phonograph cylinder, which is then placed on a little plug made for the purpose, where it remains till the typewriter arrives. Thus the correspondence is read and dictated in an hour's time leaving the dictator free to perform other duties. The typewriter then merely takes the cylinder, puts the tube to her ears and transcribes every word exactly; there is no guesswork about it, no interchanging one word for another, but it is transcribed with absolute fidelity. It is also a fact, that persons transcribing from the phonograph

can do more work in a given time than by shorthand.

Now, as to the comparative cost of the phonograph and the stenographer. It is well known that efficient typewriters can be secured at \$8 per week—this is the average price. The stenographer commands from \$10 to \$12 and even more—\$15 per week.

We can prove by figures that the phonograph is cheaper than a stenographer. We can lease two phonographs (and we always recommend putting two into a commercial house), furnishing battery service and five dozen blank cylinders, including a typewriter at \$8 a week, for less than it would cost to employ a stenographer and typewriter at \$12 a week.

We believe that while merchants are willing to pay fair wages they are also on the lookout for any device that may lessen office expenses. Such being the case, they should look to the phonograph as the means of doing this. It may seem as if we were trying to sell our wares to the detriment of a large class of ladies who are trying to earn their living. This not the fact.

Who does not remember the epoch when the sewing machine was first introduced, and the hue and cry raised against it as an innovator that would ruin the business of girls who worked with a needle? We all now know that the sewing machine has been universally adopted by this same class and that they make their support by its aid with much more ease.

The same argument is applicable to the phonograph and the stenographer. By its use a clerk will save a large portion of his time and labor, and, what is more important, he will preserve his brain from injury—an effect invariably produced by practicing stenography.

To persons residing within the territory controlled by the New England Phonograph Co., we would suggest calling at headquarters, as this would be the sure means of obtaining accurate information on this subject, since we can show testimonials from business men, lawyers, bankers and ministers who use phonographs and know their value.

The description of Phonograph Album, with cuts, will appear in next issue.

The Phonograph in Use at the Bishops' Palace, Montreal.

The Roman Catholic clergy know a good thing when they see it. They have "caught on" to the phonograph in Canada, and are utilizing it for correspondence purposes at the Bishop's Palace, Montreal, and other Catholic establishments. It has not yet, so far as we can learn, been employed to transmit verbal messages between the leaders of the hierarchy, but there is no reason why it should not become the medium for conveying a Papal benediction or anathema; or even be pressed into the service of the Church in the teaching of the people. Imagine the reverential awe with which a message from the Supreme Pontiff would be received by the faithful throughout the world, as the phonograph reproduced the solemn tones of his own voice from the altar!

THE PERFECTED PHONOGRAM.

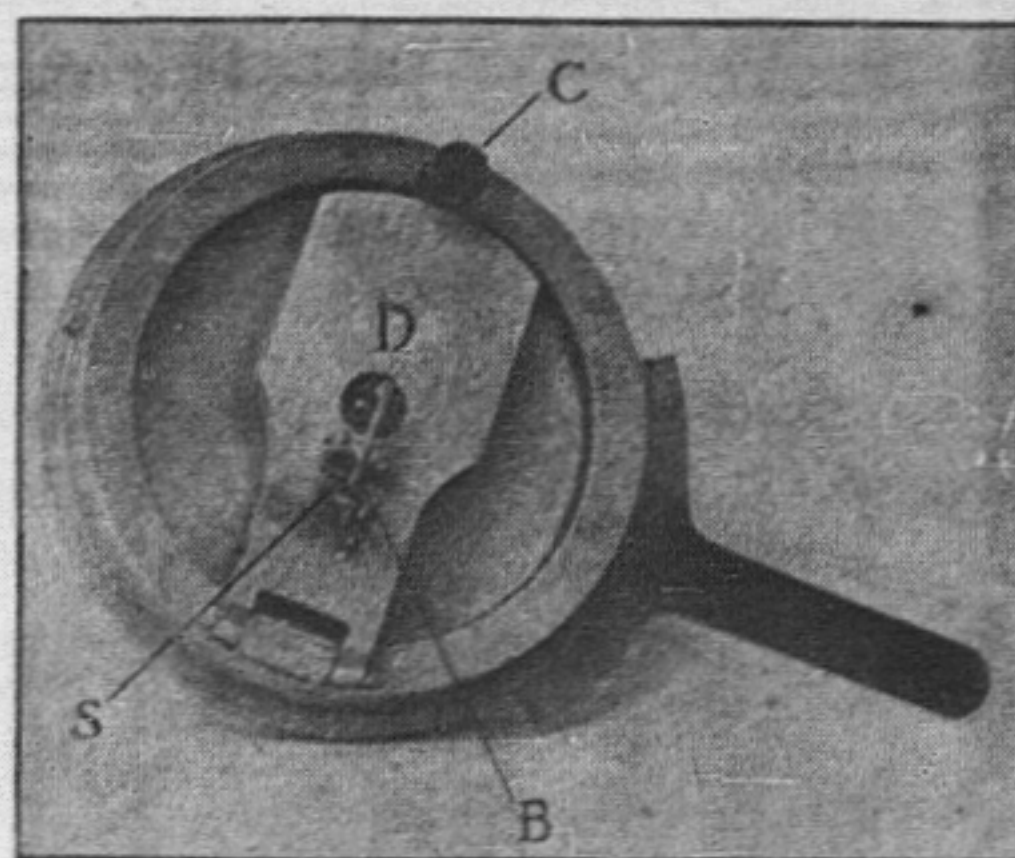
It is Steadily Growing in Popularity as an Aid to Business Men.

Few people have an idea of the wonderful changes that have been made in the phonograph since it first came out from the workshop of T. A. Edison. We are constantly receiving letters inquiring when the improved phonograph will appear. Our answer to this question is:

The improved phonograph has already appeared, and an excellent cut of the same, with each prominent part lettered and instructions for its operation, were given in the last issue of THE PHONOGRAM. The instrument has now been so perfected that it is capable of faithfully reproducing every word, syllable, vowel, consonant, aspirant, or sounds of any kind.

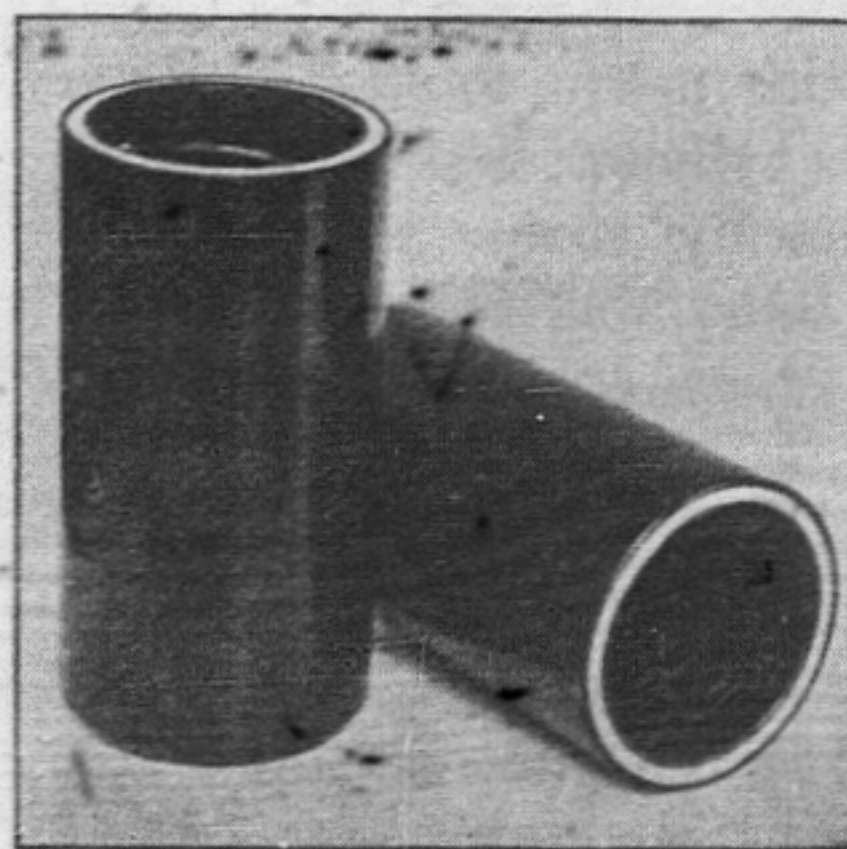
Having given a cut of the entire machine in our last issue, we herewith present some of its component parts.

The great feature of the new improvement consists in the use of the *same diaphragm* for recording and reproducing, a plate of which is here shown. Cut No. 1 represents the complete speaker, showing



No. 1.

the method of attaching the weight and sapphire styles. *B* is the reproducer ball (sapphire). *S* is the recorder stylus (sapphire). The screw *C* limits the action of the weight *D*, which is used to allow for different thicknesses of cylinder. The dia-



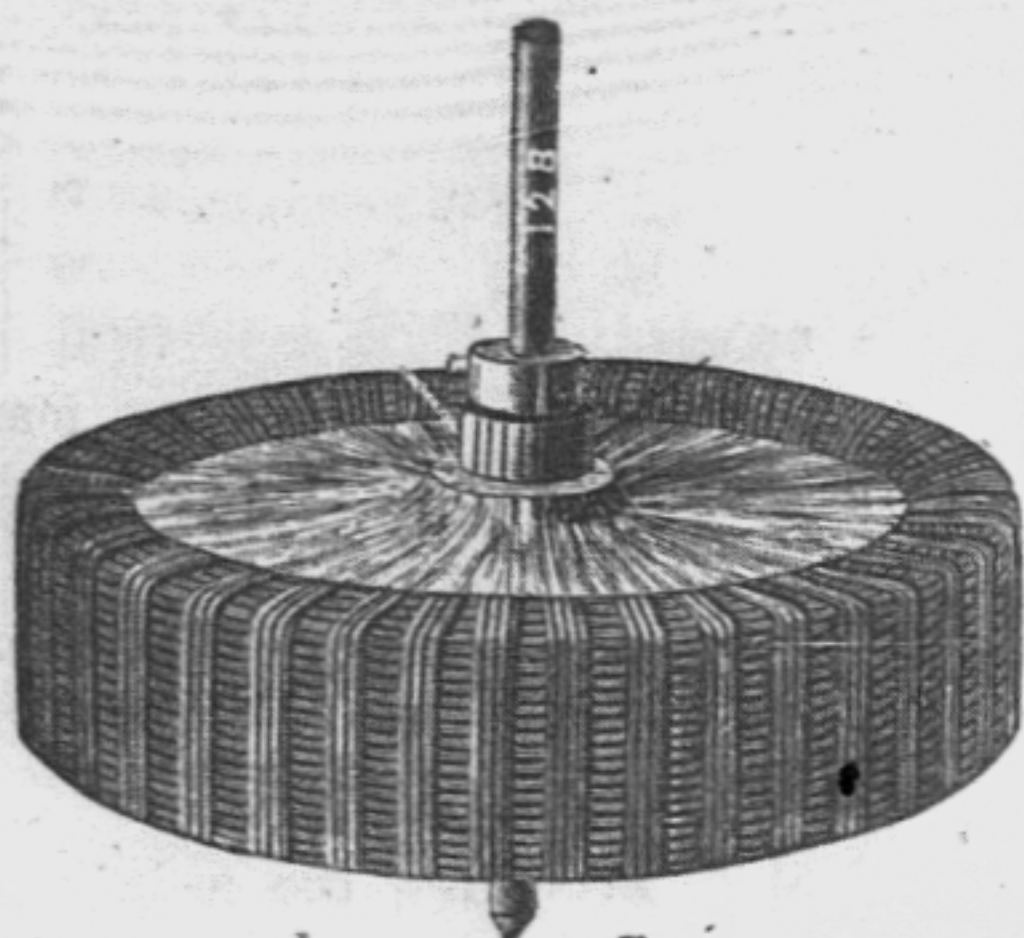
No. 2.

phragm lever, a small projecting T-shaped piece screwed upon the right of the diaphragm, when moved downward to the limit-stop, places the speaker in position to record. To reproduce, the lever is moved upward to the stop (see last issue).

In operating this new machine a wax cylinder having a diameter not exceeding

two and three-sixteenth inches is placed on the taper mandrel. The swing arm is brought into place and locked by springing the lock-bolt into place, which is done completely in one operation.

Cut No. 2 represents the wax cylinders. By the use of these the instru-



No. 3.

ment returns all the modulations of the voice in the most perfect manner. The waves of sound striking the glass diaphragm set in motion the sapphire-pointed needle which is connected therewith, and cause this needle to press into the revolving wax cylinder, making exceedingly fine lines hardly visible to the naked eye. About eight hundred words can be recorded in this way on one cylinder; and the record is perfect, no matter how rapidly or slowly one talks.

Cut No. 3 shows the complete armature, with shaft and commutator, and No. 4 is the field-magnet of motor *F*, showing bearing of armature shaft and pillars *E* for connection to top plate of machine. A sensitive governor provides that the machine may always be driven at a perfectly constant speed, so that the pitch of the sound may never vary. The rubber tubes shown in Cut 5 are supplied with two vulcanite tips, and are placed in the ears of the listener.

Cut No. 6 shows the standard-speaking tube, instead of which a tin horn about

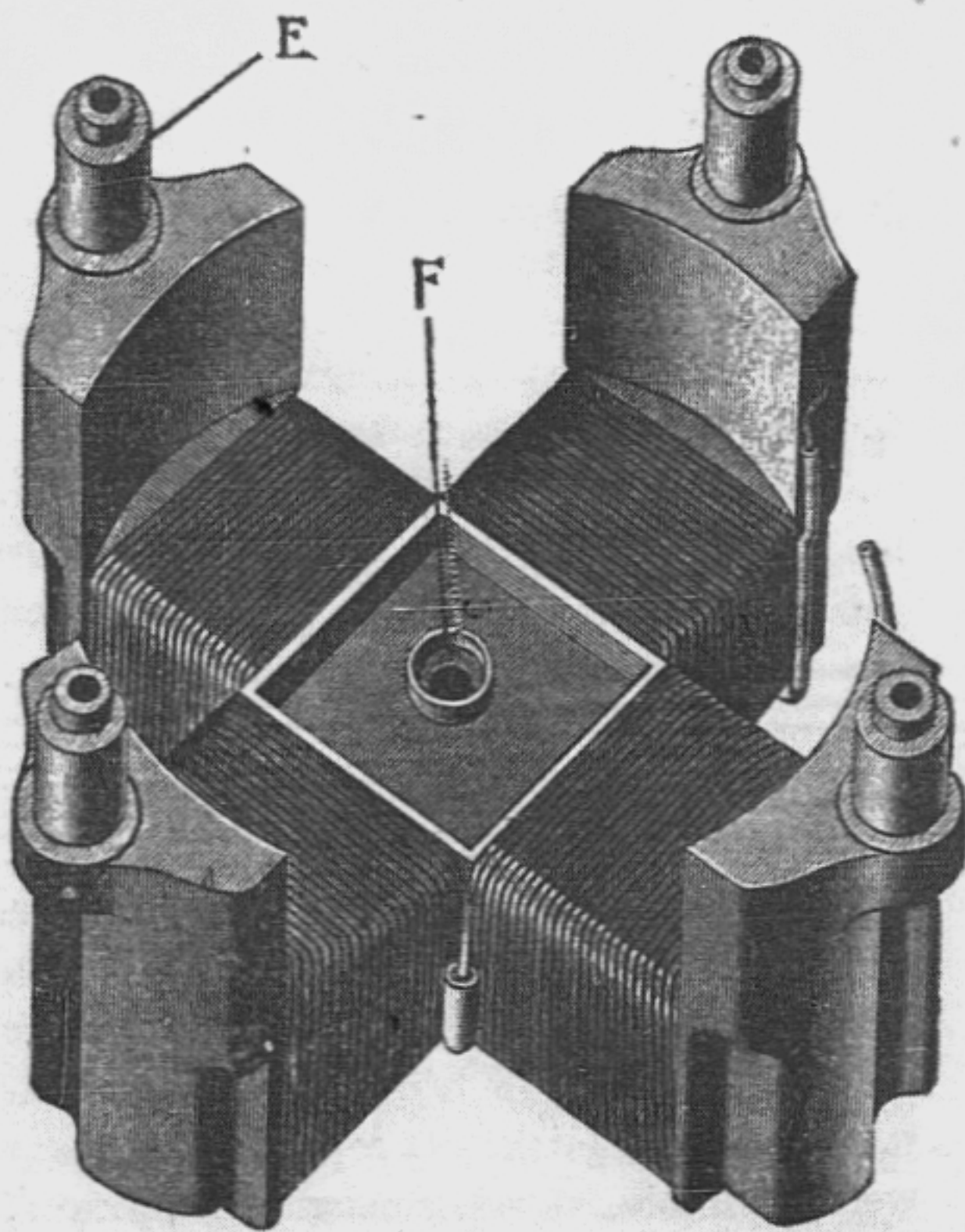
fourteen inches in length can be attached to the phonograph and used for dictating purposes if desired.

Speaking tubes from fifteen to forty-eight inches in length, to suit the wants of the dictator, can be obtained. A good phonograph record can only be made by holding the speaking tube within a half inch of the mouth and talking directly into it.

It is absolutely necessary in speaking into the tube that one should enunciate distinctly, as it is usually supposed that all sounds uttered in the same apartment will enter the tube, no matter at what distance the parties are from the phonograph.

—•••—
Professor Garner Must Have a Phonograph.

Is it possible that after all the interest manifested by the public in Professor Gar-



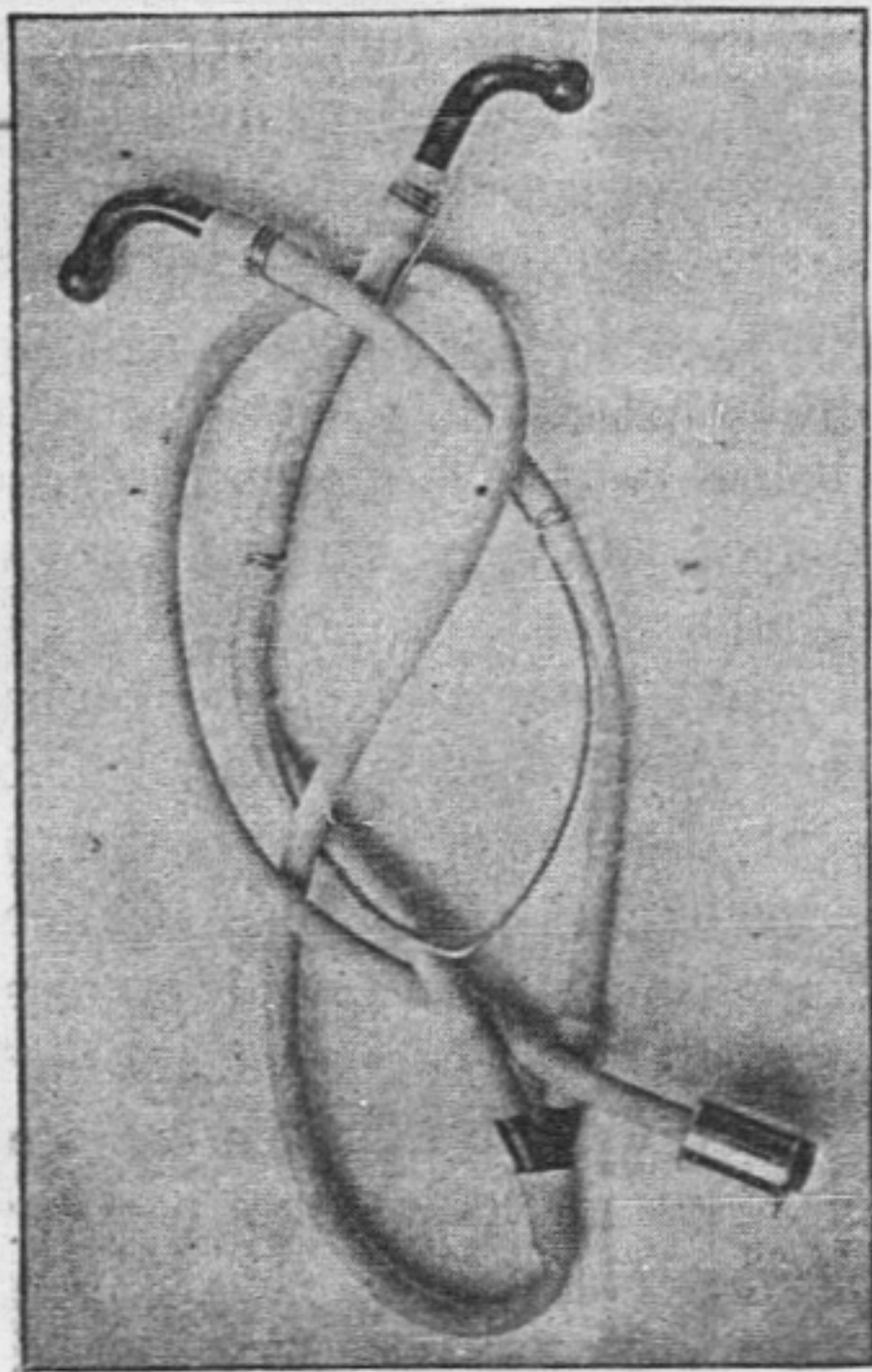
No. 4.

ner's expedition to Africa in the cause of science and for the purpose of discovering the unknown facts with regard to the origin and employment of articulate sounds, he

is to be deprived of the use of the phonograph? What pebble is it that stops the way? Do the jealousies of foreign scientists interfere, or does the question assume the aspect of a matter of dollars and cents?

The London papers say: "Owners of the phonograph patent rights for Europe

Columbia Phonograph Co. This work is of greater magnitude than any phonograph work thus far done in Baltimore, and has attracted a great deal of attention both from press and public.



No. 5.

will not sell or lease one of their machines to Professor Garner, he wishing to take it to Gaboon in furtherance of his mission to prove that monkey-language has quite as definite a meaning as the Queen's English."

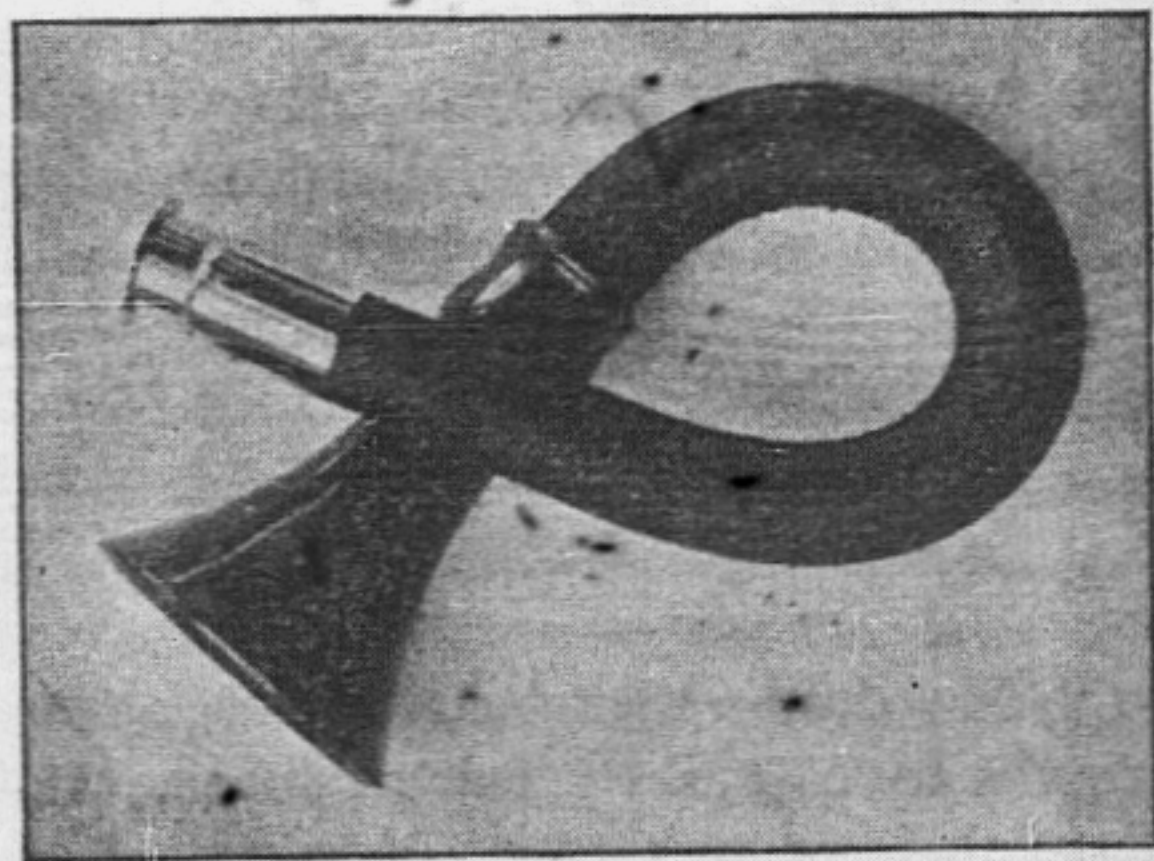
The Phonograph Aids Stenographers.

The great convention of the Episcopal Church, which began on October 5th in Baltimore and is still in progress, is being reported by Mr. James H. Fish, the stenographer of New York City, and Mr. A. Johns, the well-known Washington stenographer. All of the proceedings are dictated to the Edison phonograph and transcribed by a large and expert force of operators in the Baltimore office of the

An Adjunct to Thin Voices.

A man in New York who says he represents a company with \$1,000,000 capital and has no shares to sell, has an aluminum plate which, if inserted in a man's mouth, will change a thin voice into one with a metallic sound. He says he has put one of the plates into the mouth of a tenor singer now in New York, who has been enabled to rehearse for a week without experiencing any strain upon his voice.

This man had better go into the phonograph business. We want good singers who can stand before a phonograph and rehearse for weeks at a time. Those having thin voices need not apply, but if the aluminum plate avoids this difficulty, and a man has the nerve to listen to his own reproduction as given, firstly, through the aluminum plate and lastly through the



No. 6.

phonograph funnel, we say to that man come on, and give us all you can. We make a thousand records in one day and if you can stand it, we can. We know they will sell.

The Utility of the Phonograph.

BY EDWARD F. UNDERHILL.

I have great confidence in the utility of the phonograph and its companion device, the graphophone. I cannot believe that inventions so unique are to be regarded as scientific toys. The fact that they have been used for some years by the official stenographers in Congress and by some of our leading law reporters, is proof that they are of practical value in our profession. The difficulty in securing their immediate introduction is due, first, to the fact that stenographers of long experience are reluctant to make changes in the manner of making transcripts of their notes. Old dogs don't like to learn new tricks. Second, expert operators on writing machines, which grade alone we employ, engrossed as they are with exacting duties, have not yet reached a point where they realize the value of the phonograph as a coadjutor in their manual labor, a relief to the typewritist in a personal way, and a means of increasing their remuneration. And stenographers do not feel disposed to force old employes who have served them well to learn a new method.

While greater care must be exercised by the stenographer in dictating, greater intelligence is required of the person who records the matter as she hears it from the cylinder.

BUT IT IS GOING TO COME.

Beating the Phonograph.

"The drop-a-nickel-in-the-slot phonographs are constantly being robbed, or at least their owners are. There is hardly a day that twenty-five to fifty bogus nickels are not taken from these boxes."

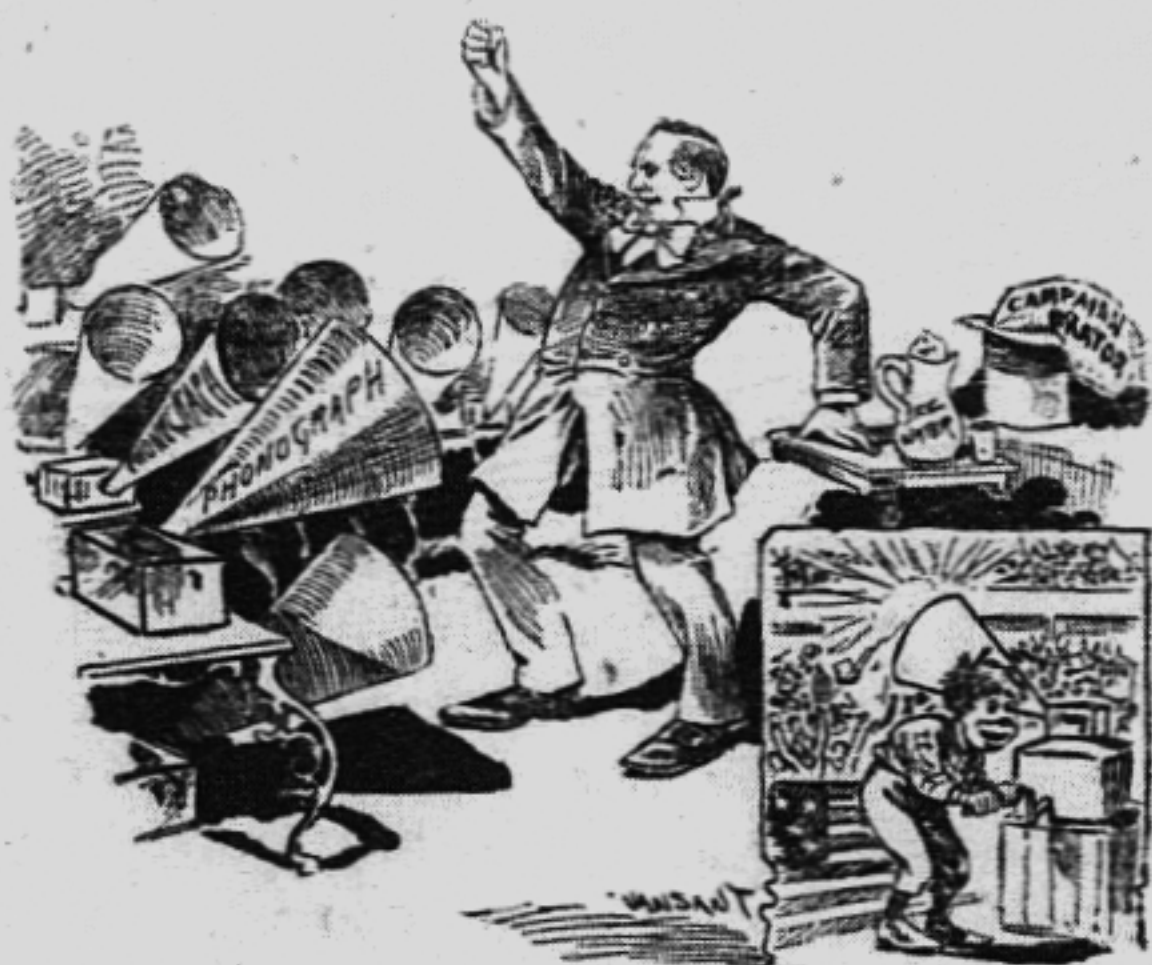
This has been the experience of Peoria, Ill., where twenty-four machines are stationed at various places about the town. The bogus nickel is usually made from a

bullet or car seal. Sometimes the bogus nickels are given the imprint of the genuine, which is done by pressing the two together, or by placing the nickel on the bogus one, and giving it a hard hit with a hammer, but this is not necessary, as all that is required is the size and weight and when dropped in the slot, the machine responds by sending forth its melody of song or music. The bogus nickel business has become so popular since the introduction of the phonograph, that parties in the East have already commenced on the sly to manufacture them, the selling price for same being two dollars a hundred. The government has been called upon to suppress the business.

The latest automatic phonographs are, however, supplied with devices which can now beat the bogus nickel-beater. The slot is made just the size of the genuine nickel, and it has been found, on close inspection, that the bogus nickel varies a trifle from the genuine in size and weight. This electrical device will not pass any but the genuine coin.

Campaign Oratory Made Easy.

When Mr. Edison invented this instrument he had no intention of furnishing



to popular speakers an apparatus by means of which their oratory could be kept "on tap" and reach the ears of the people "by

the gross," just as fans or other useful appliances are dumped—a van load at a time—into public halls for the benefit of listeners.

Yet such are the varied uses to which this versatile machine may be applied, that an orator desirous of transmitting his opinions as expressed in public, to a very wide circle of hearers, may by standing in front of a group of phonographs, be able to communicate them to some six or eight distant points in a very short time after being uttered, by railway, instead of sending his speech or address by an expensive telephone or telegraph.

At least this is what we are informed has been accomplished by a prominent Western politician, who, being invited to speak at two hundred places within a limited period, is said to have adopted this novel method of making himself, as it were, ubiquitous. He has the reputation of being very persuasive in his eloquence, and concluded that by means of the open mouths of eight phonographs attached with horns, all "the wisdom dripping from his tongue" might be caught by these faithful little reporters and quickly forwarded to places "where they would do the most good."

We cordially recommend all political speakers to adopt the new custom; it is more satisfactory than a printed copy of the speech of a favorite orator, because you hear not only the spoken words, but the sound of his voice.

Still They Come—A New Votary to the Phonograph.

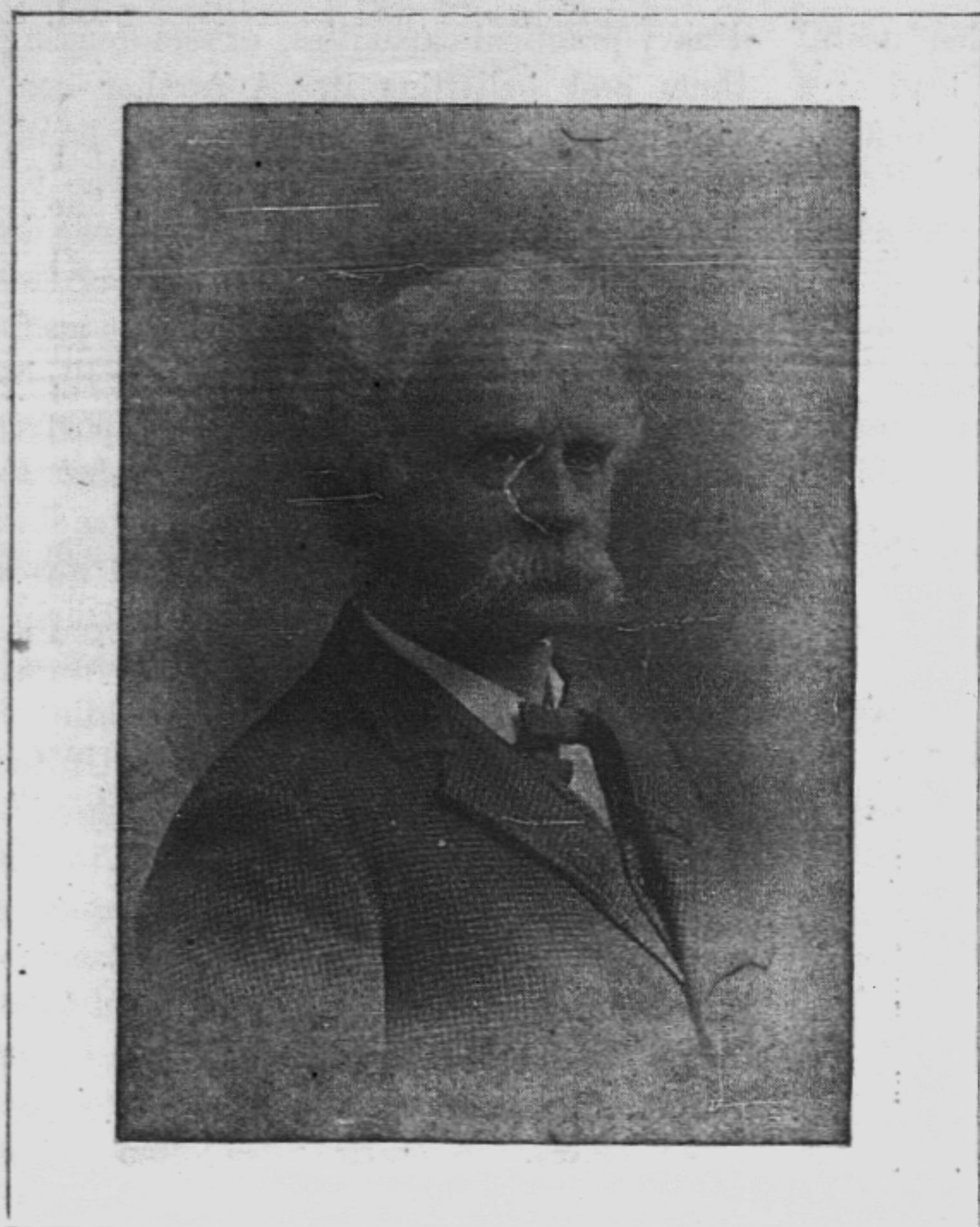
Time, the great restorer, settles many a question which without his potent aid would remain an unending cause of strife. For months, even years, the fact that the phonograph was something far beyond a toy has been a disputed point among stenographers; some lauding its extraor-

dinary practical capacities, others denying them and belittling it. A further convincing proof of its value is now at hand, and we present it in this issue.

In 1847, a young lad from a town in New York State began the study of stenography; in this art he became so proficient, that he was employed, in 1849, by the *St. Louis Republican* as a reporter, and later by the *Reveille* and the *Intelligencer*. He was the first stenographer west of the Mississippi River, and was a resident of St. Louis until 1853. During a part of that epoch he was amanuensis for Senator Thomas H. Benton, while he was writing "Thirty Years in the United States Senate." In 1853 this gentleman, Mr. Edward F. Underhill, came to the city of New York, and became a reporter to the *Times*, afterwards to the *Tribune*, where he remained until 1861. In 1880, Hon. David D. Field, suggested to Mr. Underhill the necessity of a law to provide for the appointment of official stenographers in the courts of the city of New York. Mr. Field wrote an amendment to the code and Mr. Underhill succeeded in getting it passed by the Legislature. This was the beginning of a system which has been adopted in every State in the Union and in the Dominion.

Mr. Underhill has been official stenographer of the Supreme Court in New York, also of the Legislature and for the Constitutional Convention of 1867-8. He has also been assistant to the Surrogate for many years and stenographer of the Surrogate's Court. He was employed in three important impeachment cases, notably that of Governor Holden, of North Carolina, in 1871. He has been four times elected president of the largest association of stenographers in this city.

Mr. Underhill believes in the usefulness of the phonograph, and it is he who contributes the excellent article in its favor published in this issue. When a man who



Edward F. Underhill.

stands as high as he does in his profession, together with his distinguished confreres, Messrs. Parkhurst, E. N. and D. Murphy, Senate reporters, Washington, D. C., and Mr. E. N. Miner, of the *Phonographic World*, yield their adhesion to the phonograph, against which many prejudices had at first been erected, the barriers set up by others will surely fall. It will be like the flock that waits before the fence or wall until the leaders jump over, when the remainder follow unhesitatingly.

The North German Lloyd Steamship Co. has put a phonograph in the cabin of the *Havel*, and choice music is furnished the passengers at all hours, whether the vessel be out at sea, or moored to her wharf. The

revenue from it is turned over to societies in Europe whose object is the relief of distressed seamen. A large sum is realized on every trip.

French and Belgic Ingenuity in the Matter of Clocks.

The combination of a clock with a phonograph has been effected by M. Terrier de Villeneuve, who, as is stated by the *Petite Republique Francaise*, is a French engineer now living in New York, and who has for some time past worked in connection with Mr. Edison.

This unique production is capable of performing in twelve hours the music of four operas, viz.: *Lohengrin*, *Faust*, *The Huguenots* and *William Tell*; and in these renditions the audience will hear the voices of the most celebrated vocalists

who have appeared in the principal parts, as Madame Patti, Faure, etc. It will be a phonographic reproduction of the Grand Opera at Paris.

The other clock referred to was invented by a clockmaker at Brussels and is wound up by the sun, only requiring to be placed near a window on which the sun shines. The solar rays falling on a shaft causes an up-draught which sets the fan in motion.

The fan actuates mechanism which raises the weight of the clock until it reaches the top and then puts a brake on the fan till the weight has gone down a little, when the fan is again liberated and proceeds to act as before.

As long as the sun shines frequently enough, and the machinery does not wear out, the clock will keep going.

A Great Republican Speech Reported by the Phonograph.

Gen. John C. Spooner's great Republican speech at the opening of the campaign in Wisconsin was transcribed entirely from phonographs, and the work, which was done in a room adjoining the hall, attracted almost as much attention as the delivery of the speech. The speech was begun at 8:30, finished at 10:50, and the transcript delivered to the morning paper at 12:15.

Mr. Goodwin, of the Wisconsin Phonograph Co., superintended the work, and the *Milwaukee Sentinel* gladly rewarded him with two \$20 gold pieces, which he at once carried with him to Chicago and disposed of in exchange for Chicago hilarity in company with the genial vice-president of the North American Phonograph Co.

The Phonograph for the Blind.

For some time past we have held communication with the superintendents of institutions for the blind, in order to ascertain if the sad lot of the latter could not be alleviated, and their power to increase the sum of their labors be enhanced by the use of the phonograph.

Observing in several of our exchanges articles alluding to the work and progress of the blind, we perceived that an important step towards facilitating progress had been made by teaching them to operate the typewriter. *The Phonographic World* (Mr. E. N. Miner, New York), *The Phonographic Magazine* (Mr. Jerome B. Howard, Cincinnati) and *The Stenographer* (Mr. F. H. Hemperley, Philadelphia) all mention this fact, and the improvement made in those machines for the benefit of this class of persons. The first speaks of Miss Barbara Whitson, Hatfield, Kansas, who in clever verse pays a tribute

to the instrument which has proven to her so great a blessing.

The second journal states that Mr. Frank H. Hall, superintendent of the Illinois Institute for the Blind, at Jacksonville, Ill., has perfected the best typewriter ever invented for the blind.

None but those accustomed to teaching the blind can understand the value of a machine like this to them. Heretofore they could not carry on mathematical observations like other persons, but now they can solve algebraic and arithmetical problems as other people do; they can write music, and construct a book when the demand is not sufficient for the printing of a volume. Dots are made by this machine in the paper, as in the Braille dotted alphabet, which is a system of dots arranged in rectangular cells, so that all the letters of the alphabet are easily made.

As the machine neared completion a reward was offered to the pupil in the Illinois Institution of the Blind who should acquire the greatest skill in using it by the close of the last session of the school.

Five boys expressed a desire to enter the contest; they were provided with "dummies," which they used about two weeks, when the first working machine was brought into the institution. After each boy had practiced nine hours on the machine itself, they were carefully tested as to speed and accuracy, both on new matter and memorized work. The examination of their work was entrusted to two blind persons long familiar with the Braille system, with instructions to note every error recognizable by the touch. The following is a copy of their report to the superintendent:

"PROFESSOR HALL:

"After careful examination we find that Arthur Ament is entitled to the prize offered by you for the best work on your new typewriter. He wrote thirty one words of new matter in one minute with but a single error—and that, a failure to space in one instance.

"We wish to say in behalf of the machine, that even when worked at that high rate of speed, it marked a 'point' absolutely faultless. Please accept not only our congratulations, but also our heartfelt thanks for the incalculable benefits you

have conferred upon the blind by producing this machine.

"GEORGE R. PARKER.

"ARTHUR JEWELL."

The above is from *The Phonographic Magazine*. *The Stenographer* calls this Hall-Braille typewriter "the most notable printing device in the history of instruction for the blind." It says also, "It prints characters that the blind can read themselves"; and "The typewriter for the blind proves to be an extraordinary typesetter in itself, and it is firmly believed will revolutionize printing for the blind, and their education henceforth will take enormous strides."

Now we add that when a blind person becomes a good typewritist he is already half-way on the road to becoming an amanuensis. To make him wholly so, he should learn how to operate the phonograph, which is merely child's play after that. He is then fully competent to fill the position of private secretary, correspondent, or clerk in any business house. This opens a new field for the blind, and will place them on an equal plane with their more fortunate brethren.

The same idea was broached by Mr. Thomas Conyngton, of the Texas Phonograph Co., in a recent communication to the editor, and we are happy to be able to offer the above points showing him that THE PHONOGRAM is in accord.

A Telephonic Phonograph.

W. A. Church, a man of more enterprise than means, is manager of the World's Fair Musical Palace Co., of Chicago, who have a scheme for erecting a large building fitted with long-distance telephones and telegraphs, by means of which persons in other cities may hear reproduced music delivered at the Columbian Exposition. This is not at all difficult to accomplish—in fact, is an every-day occurrence be-

tween New York, Boston, Philadelphia and adjacent cities. Mr. Church has not been successful, however, in raising the capital, although great things have been promised to those who subscribe for stock. He has traveled extensively in the East and has, no doubt, been regaled with musical productions on the phonograph by transmission over long-distance telephone.

The Post-Office in Ottawa, Canada, Adopts the Phonograph.

Mr. William C. Coe, agent for Holland Bros. at London, Ont., is teaching the use of the phonograph in connection with the Smith Premier Typewriter in his shorthand and typewriting schools. He is a court stenographer, and has demonstrated the practical utility of the phonograph in his own business. With him, as with all expert stenographers who have tried the phonograph, the day of the shorthand amanuensis has gone by. The phonograph answers his purpose better, and is always available.

The Post-Office Department at Ottawa has adopted the phonograph for correspondence purposes, greatly to the relief and delight of the overworked deputy. Before he procured the phonograph, he was constantly confronted with the disagreeable alternative of having either to dictate his correspondence and reports by snatches to half-skilled amanuenses during office hours, or to require his stenographers to remain after office hours. Now, when the civil servants retire, he shuts his door, and with ease and unchecked speed pours forth his words into the receptive wax of the phonograph cylinder. He knows that when he reaches his office next day, most of his correspondence will be neatly and accurately transcribed and ready for his signature. Colonel White would rather part with half of his staff than with his tried and trusty phonograph.

THE KINETOGRAPH.

A NEW INDUSTRY HERALDED.

It is difficult for those not familiar with the phonograph to conceive the extent of its field of operations, or the diversity, one might almost say the inconsistency, of the functions it fills. It is like the "harp of a thousand strings" of which we read.

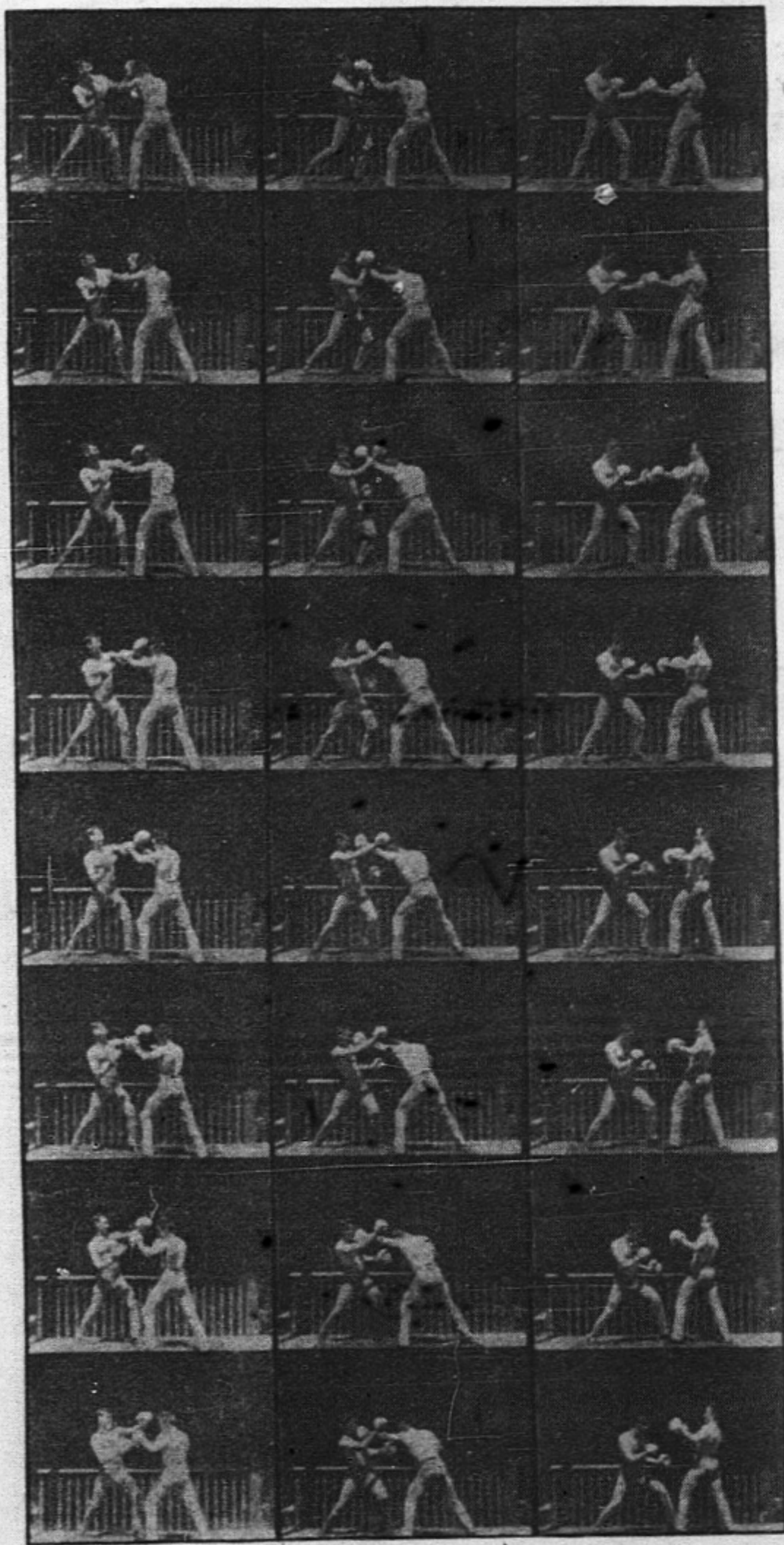
Its latest role is by no means the least wonderful, and though this instrument has already achieved conquests in the sphere of industry that may be denominated vast, the greatest is yet to come; and when it stands forth before the world, will make such gigantic strides as were never previously witnessed.

At the opening of the Columbian Exposition there will appear a dual instrument, two steeds of almost infinite capacity in their special powers, whose performances it will tax the human eye and ear to follow.

The Edison Kinetograph is an instrument intended to reproduce motion and sound simultaneously, being a combination of a specially constructed camera and phonograph. The camera used in connection with this instrument will take forty-six pictures a second, which is 2,760 pictures a minute, or 165,600 in an hour. The rapid photographing of these pictures upon a long band of extremely light, sensitive film creates the illusory spectacle of real motion of the figures, and when to this visual impression The Phonograph is called to

join its voice, we have a combination of effects upon both auditory and optic nerves. This specially constructed camera is attached electrically to a phonograph and their combined movements are simultaneously registered, and thus we have the duplex sensation of vision and sound.

Now the advantages of the kinetograph



Boxing.

are, that we may enjoy the eloquence of a great orator, hear his voice, see his face and form and every movement he makes at one time while in our own homes; celebrated actors, singers, etc., may in like manner be called before us while we sit in our drawing rooms; we need not resort to seats in the open air, situated miles

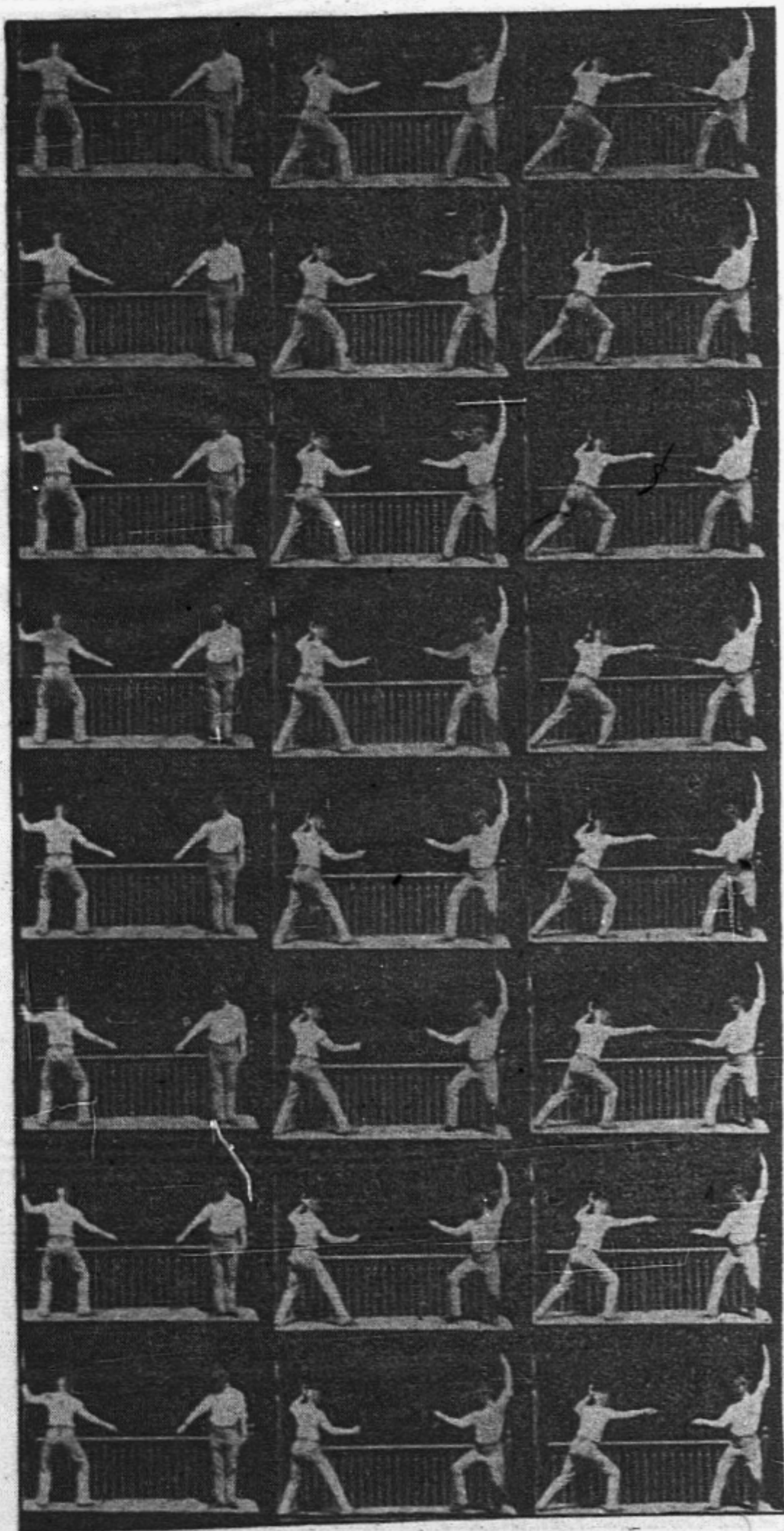
away from our dwellings, to see military processions or civic parades; those who are interested in swift-running horses can see a race going on at Sheepshead Bay or Monmouth, without leaving New York, and just here let it be remembered that this instrument may play a most useful part, for in a close race where a few

inches of space turns the scales, it will take down just what happened, faithfully; and the kinetograph will also record with fidelity all that takes place at prize fights, baseball contests and the noise, stir and progress of games.

It would be impossible at the present stage of this invention to enumerate all the uses to which the phonocamera or kinetograph is applicable. Suffice it to say that its capacities are apparently unlimited; especially does this view of it apply to its powers as a source of amusement.

Dictators and Dictation.

It is difficult to exaggerate the importance of acquiring good methods of dictation. And although the business man may consider it a minor consideration in the category of processes by which he arrives at obtaining records of office work, it is in reality a primary necessity. Those who dictate letters, documents or any instruments of writing are often unaware that the fault of imperfect copying lies at their door. The reasons are as follows:

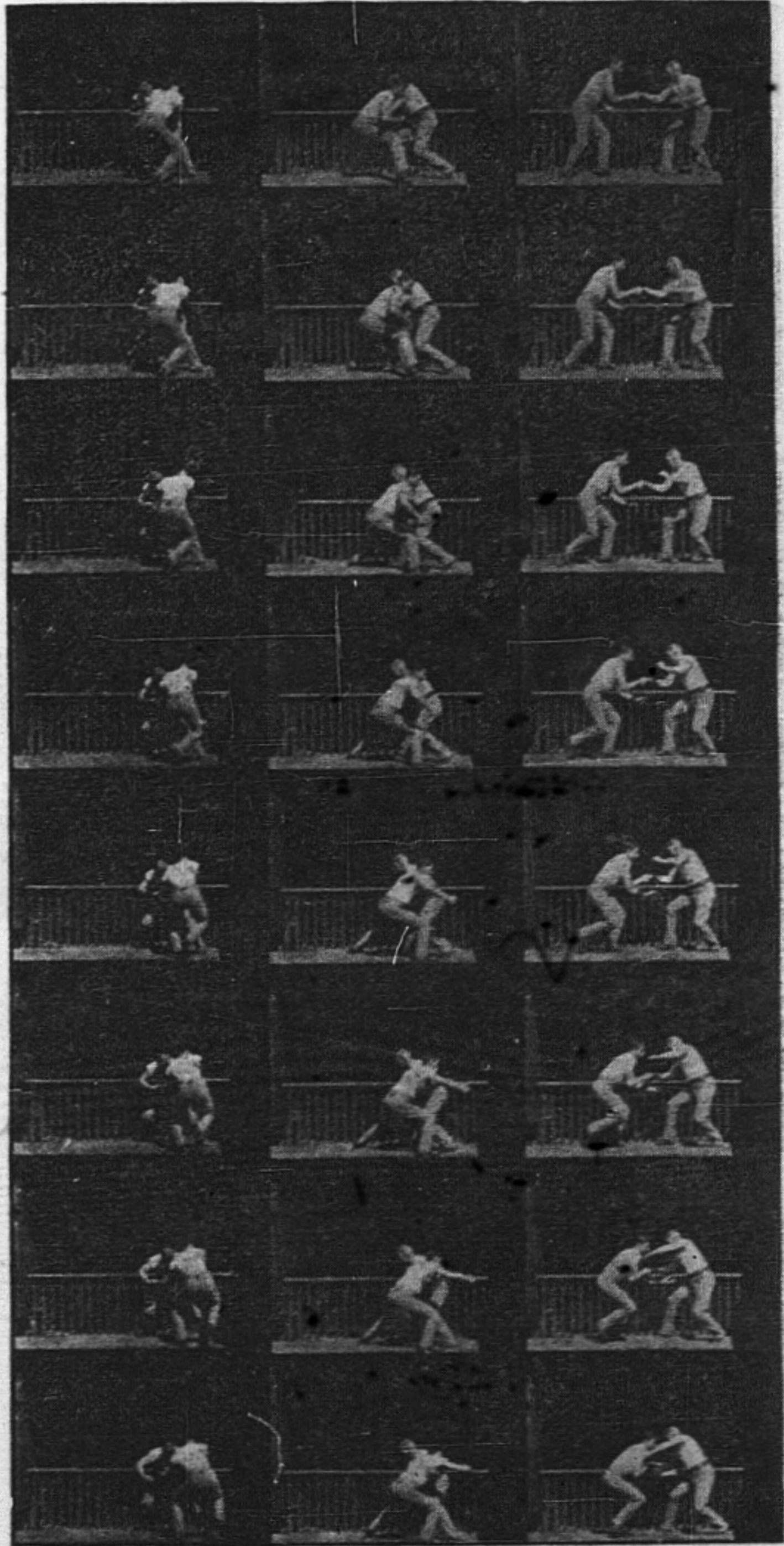


Fencing.

1st. The dictator sometimes speaks too rapidly. He should remember that waves of sound, like waves of the sea, may overlap each other, producing not a separate form or impression, but a confused and wholly different result from what he expects. Let him learn to *enunciate distinctly*, that is, give each syllable in his words a full and separate sound. We do not intend to be understood as recommending him to lose sight of the fact that all words of more than one syllable are accentuated on certain syllables. The proper accent must be retained in every case; at the same time he must learn not to run one word or one syllable into another, making one long, continuous, and therefore confused sound, which is lost on the cylinder or lost to the person receiving the dictation.

Let him try to make the right divisions of sentences, adopting one style of doing this, so that his typewritist may come to understand his customs in this respect. In other words, let him punctuate by pauses of different lengths; the shortest for a comma, next in duration a semicolon, one a little longer for a colon, and a lowering of the voice for a period or full stop. His enunciation should be loud and clear enough to be heard above the click of the machine. He must also learn to observe the movements of the writer, so as to keep time with her; not rushing

ahead, but remembering that the person who speaks cannot make the same progress as the person who writes. Finally, the dictator must come to his work prepared to be patient, polite, willing even to receive suggestions that may expedite the work. We should all recollect that human beings have nerves, and if harsh



Wrestling.

tones will quicken the pulse of a horse, they will affect the movements or work of a copyist.

The reader will readily see that some of these suggestions apply particularly to phonographic dictation, while the others apply to the records of the typewriting machine.

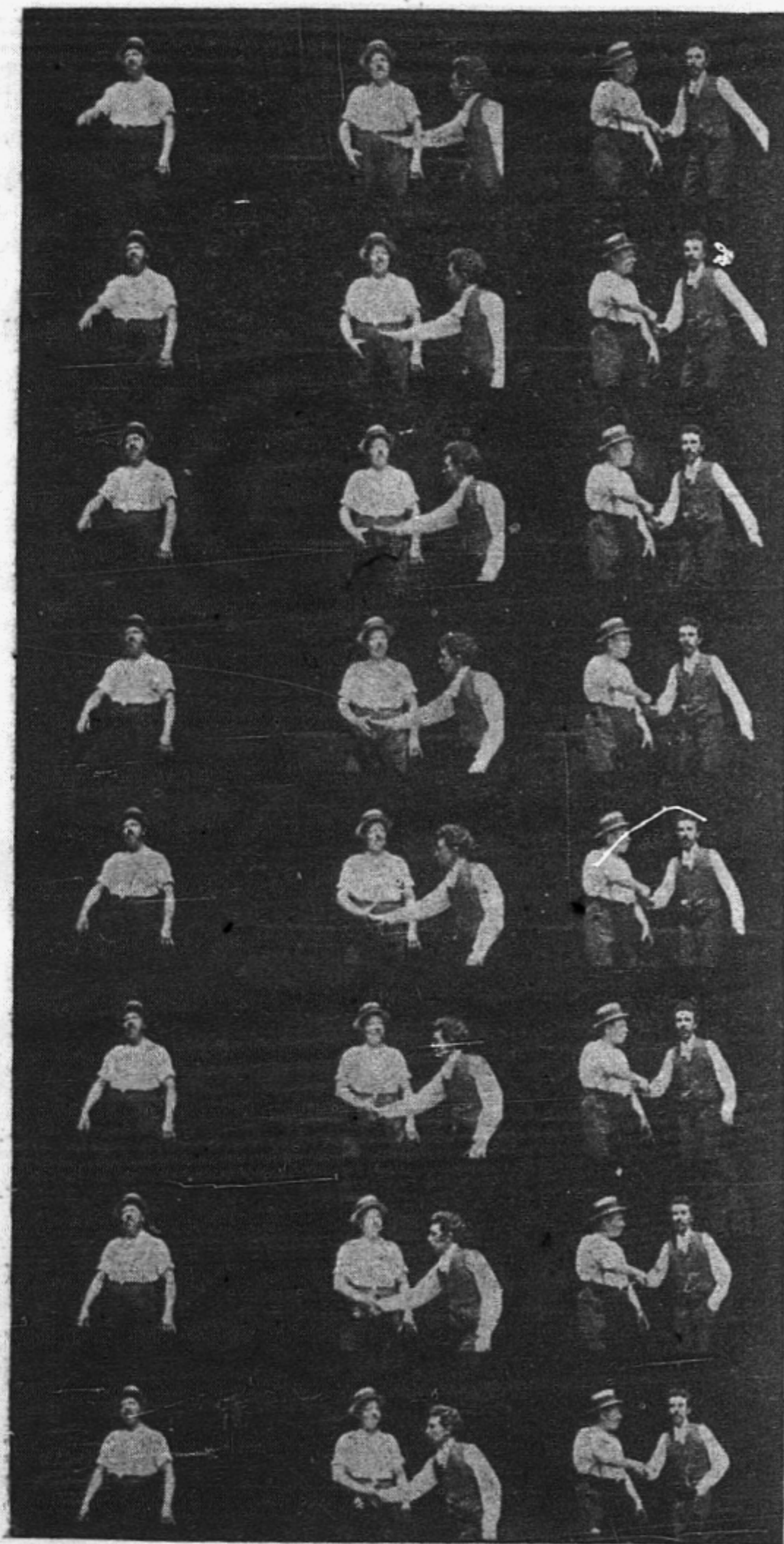
The Phonograph Exhibit at the American Institute Fair.

This is the season of fairs, and at Boston, Pittsburgh, and various other cities, the stirring people of our country are exploiting the objects displayed to attract purchasers, with commendable zeal and

intelligence. The phonograph holds its own among the legion of attractions, for it is like a kaleidoscope, ever offering something new.

The American Institute exhibition is in full blast, and persons from all parts of the United States who came to witness the Columbian celebration, and perhaps to make acquisitions in the commercial line, remain to receive instruction and gather more facts at this Fair. At the Institute hall a space of thirty feet square is devoted to the phonograph interest, and is artistically decorated with bunting and adorned with a fine portrait of Mr. Edison, while fifteen automatic machines stand ready to pour out music or recitations, according to the wishes of the patrons. Apart from these is placed an exhibition machine, connected with which is an eighteen-way hearing tube, that affords visitors the opportunity of listening, eighteen at once, to the music.

The songs most popular are five campaign songs, "I'll Be True," by Edward Clarence, of the New York Co.; "The Laughing Coon," by George Johnson, and the



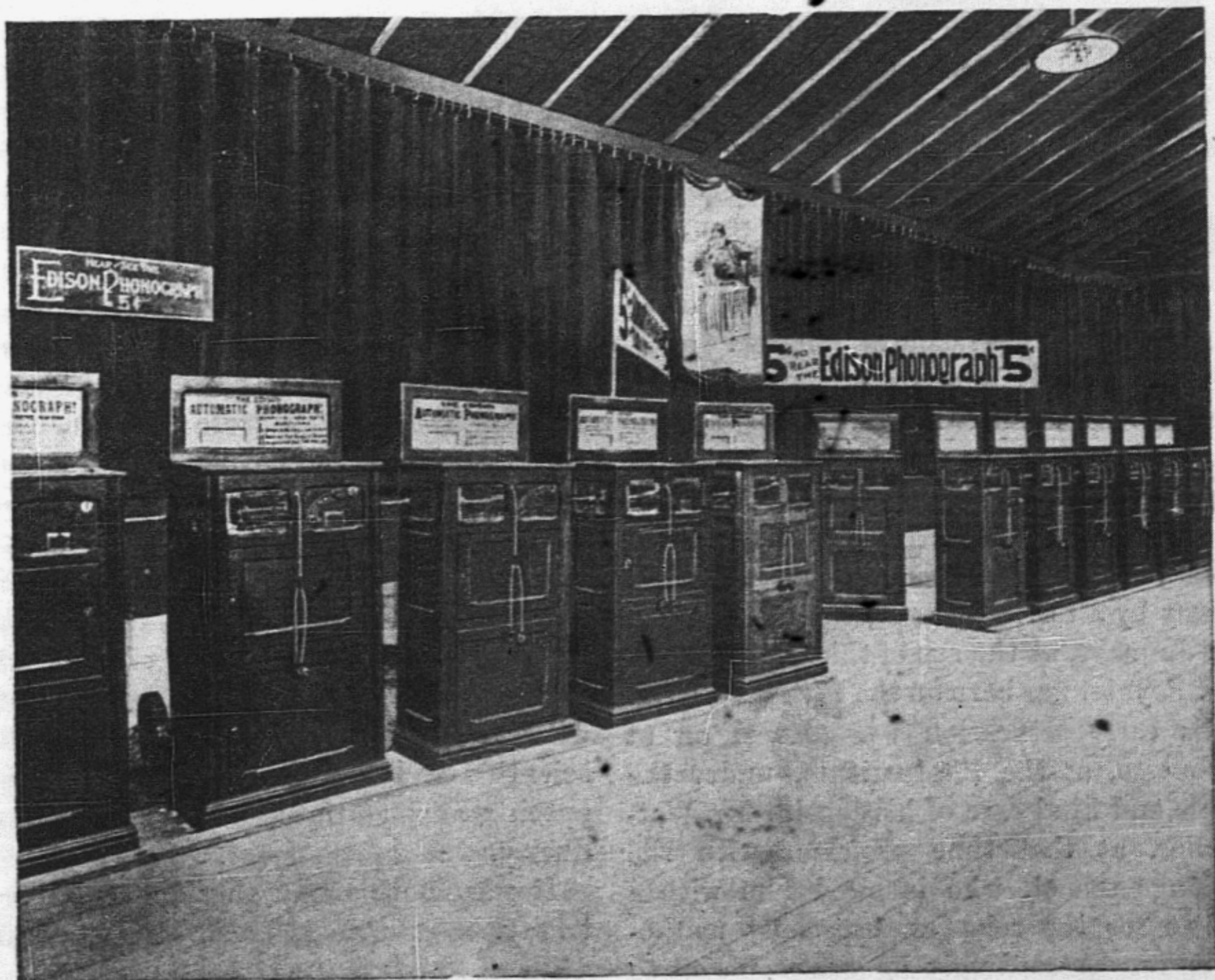
A Hand-Shake.

comic song, "Throw Him Down, McCloskey," by George Gaskin. A large crowd stands constantly at two of these machines to listen to the cornet solo, "Love's Messenger," by the famous Patrick Gilmore, and the Volunteer's March, an orchestral piece, also by Gilmore. Among the recitations Mr. Russell Huntington's "Discovery of Columbus," is excessively amusing and creates much merriment. The whole exhibit is under the charge of Mr. George B. Lull, the genial manager of the automatic business for the New York Company. Mr. Lull has been connected with this company for a number of years, and made perhaps the most wonderful record of any man in the enterprise. He received during the past Summer at Oscauwauna Grove, in ten minutes, nine dollars, from an exhibition machine. This is the largest amount of

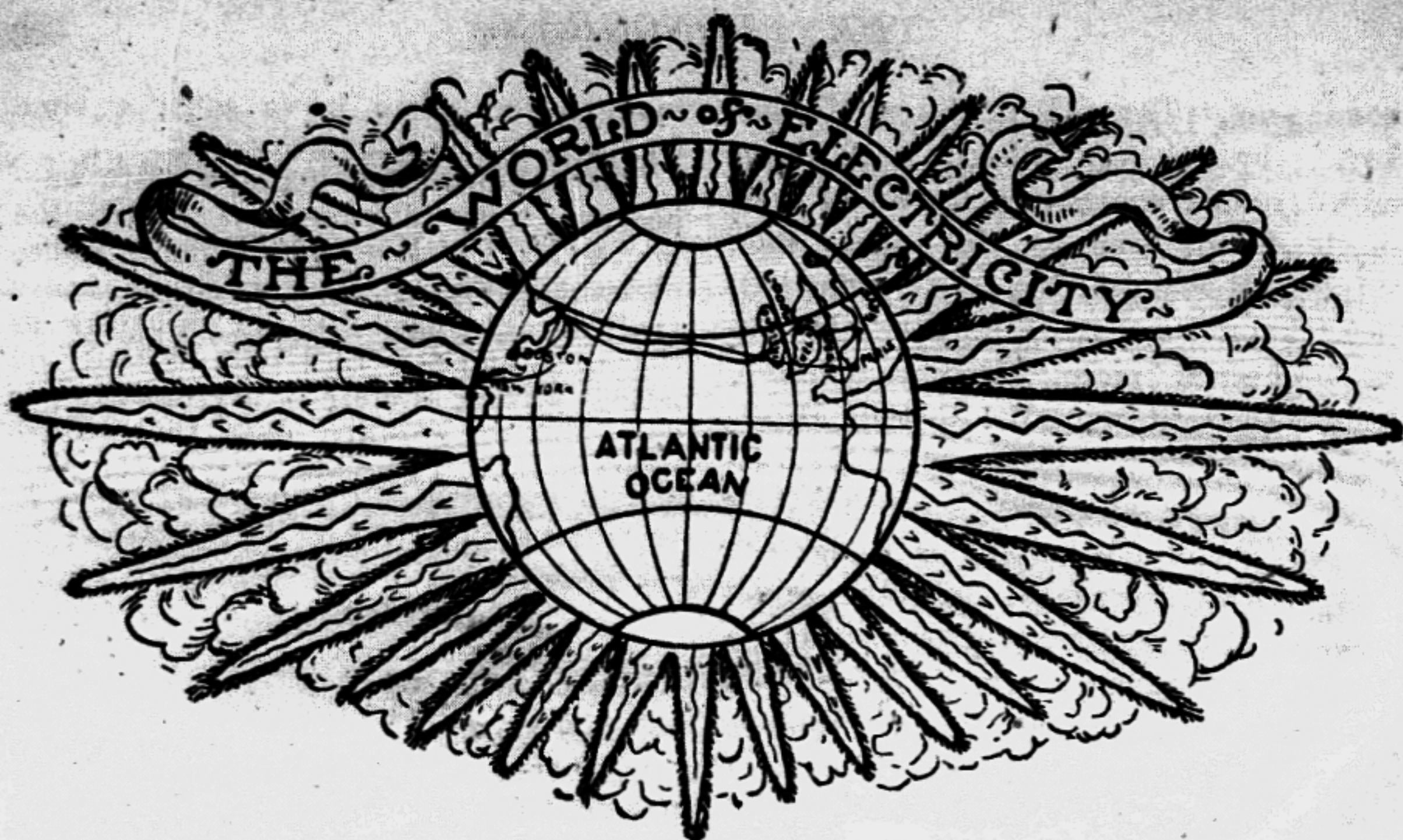
money ever taken in so short a time from any exhibition machine.

The exhibition phonograph, with way-hearing tubes attached, is under the management of Miss C. E. Jackson, whose pleasant, obliging manner draws many visitors. The machines are gathering in the coins, and Mr. Lull tells us that the profits arising therefrom average \$60 per day, and on crowded days they realize much more. The piano solos of the New York Co. are specially fine. Mr. R. T. Haines has invented a process of taking the records that brings out in a delightful way the notes of that instrument.

Mr. E. N. Miner, editor of the *Phonographic World*, recently told a PHONOGRAM reporter that he had become so impressed with the utility of the phonograph as an aid to the reporter that he would gladly offer the pages of his magazine to any contributor who would send articles on the subject.



Phonograph Exhibit at the American Institute Fair.



THE DISTINGUISHED SCIENTIST, MR. EMILE REYNIER.

Most readers of THE PHONOGRAM will find special interest in an account of the life and works of this celebrated inventor, which, with his portrait, has been sent us by his widow. This necrological notice was written by Mr. Auguste Moreau, extracted from the Bulletin of the Society of Civil Engineers (March, 1891) and translated for this magazine as follows :

The cruel Winter just passed has numbered among its victims many who had every appearance of long life and every promise of a brilliant career. Such was especially the case with our colleague, Mr. Emile Reynier, who was suddenly snatched away by a terrible pneumonia, on the 20th of January, at the age of thirty-nine years. E. Reynier was born on the 17th May, 1851. His early education was carried on at Gonesse, at the Plé Institute, under the able and kind care of his cousin, Mr. Watelier, at that time professor with the Monge school, who inspired him with a taste for the sciences, especially mathematics. Accordingly he was soon sent to the college of Chaptal, where he could

imbibe and complete those elevated scientific ideas which later rendered him such great services

Leaving college in 1866, he entered the establishment of his father, a manufacturer of lamps, whom he was called to succeed ; very soon, at his request, he was sent to pass a year at the workshops of Mr. Bourdon, a constructor of manometers,* where he could acquire solid practical knowledge. Returning afterwards to the paternal home, he manifested immediately under every sort of form his inventive talent—and generally with success. A tireless worker, he continued after leaving college to study constantly the sciences which he had not sufficiently fathomed. Without any guide, impelled solely by his desire to learn, he ardently followed the scientific and industrial movement of the epoch while continuing the paternal industry.

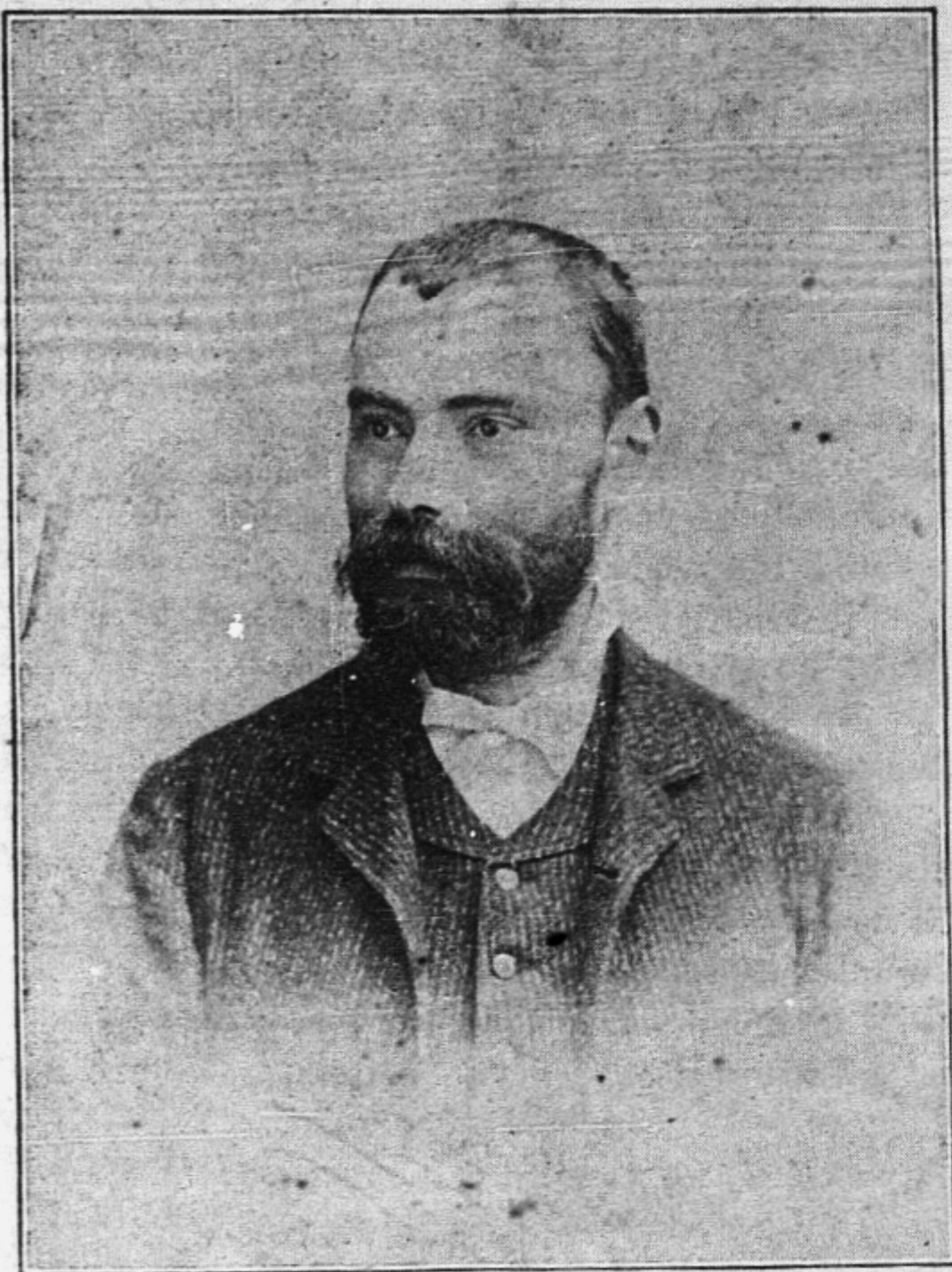
It was in this way that in 1875 electricity, then in its infancy, attracted him

* Manometers, instruments that indicate the density or rarity of the air.

irresistibly. He conceived the construction of his first electric lamp, based on a hydrostatic principle, which he displayed at the Conservatory of Arts and Trades under the benevolent support of Mr. Edmond Becquerel.

Thereafter, Emile Reynier decided to devote himself to that most seductive branch of science. Since 1875 his inventions and his labors succeed each other without cessation or truce. Our society know them all too well for us to examine them in detail: a rapid enumeration of his principal discoveries will suffice. From the year 1875 he devised the metallization of the carbons of arc lamps; in 1878 he invents that incandescent lamp of simple appearance which made so great a sensation. At this epoch we formed the acquaintance of Reynier; we were at once strongly interested by his ardor, his high intelligence and the qualities of his heart, which made him the most affectionate and devoted of friends.

In 1880 he began to devote himself to the study and perfecting of secondary batteries or accumulators, which had been recently discovered by Planté. It is mainly to him that the development attained by these instruments is due. He advanced, besides, a new chemical theory on this subject and expended all his efforts in propagating the use of it, persuaded that accumulators were the indispensable complement of all permanent installation for lighting. At the present time everyone is convinced of this, and it has been put in practice in numerous sections of Paris.



Mr. Emile Reynier.

Many opposed it, in particular the authorities of Nantua, when he tried to make an industrial application of it in the department of L'Ain. In 1882 he published a treatise on all the types of accumulators and a very precise technical commentary on the electric lighting by accumulators at the Theatre of the Variétés.

There are also due to him the following works:

1. The replacement of lead in the accumulators.
2. The variations of electro-motive force; their cause and their valuation.
3. A special accumulator invented by him, type copper and zinc, with his chemical theory.
4. The application of accumulators for

lighting (1884) and traction of tramways; their application to the propulsion of torpedoes.

He was continually improving accumulators and in collaboration with Faure and Siemen introduced many new types. We owe to him a large number of articles in the technical journals, such as *Nature*, *The Electric Light*, *L'Electricien*, all of which, were original, showing no traces of compilation. He made numerous communications to the Academy of Sciences and the Society of Physics, and at the last international congress of electricity in 1889, he attracted much attention by his study on the activity and work of voltaic couples. Outside of all these we owe him the following productions: "Electric Piles and Accumulators—Technical Researches," "Electric Traction by Accumulators Applied to the Tramways of Paris," "Elementary Treatise on the Voltaic Accumulator," "The Voltameter Regulators."

Very recently we were present at the factory of Durafort, and we witnessed conclusive experiments upon his elastic accumulator, destined for the navy. All competent persons there realized that this had made material progress over everything else done in that line up to this time. Reynier would have derived immense profits from this had he not been snatched away by death.

His was a loyal, honest, patriotic nature; a man of heart and honor in the most complete conception of the word. Yet though his mildness was proverbial, he became intractable towards all that was not irreproachably right and correct. In summing up his character we find it noble under all aspects and bid adieu to this incorruptible man with profound emotion.

Through a pneumatic tube seven hundred miles in length letters are whirled between Paris and Berlin in thirty-five minutes—at a speed of twenty miles a minute.

The Decision of a Great Suit in Favor of Mr. Thomas A. Edison.

In the United States Circuit Court of Appeals, Judge Wallace presiding, a great triumph was recently achieved for the Edison Electric Light Co. It is decided that any form of incandescent lamp is an infringement on Edison's patent.

The long-contested filament case, which was brought before the courts in 1885, is now terminated, the decree of the United States Court of Appeals (which is a court of last resort in patent cases) being final and conclusive. This information was received at the offices of Messrs. Eaton and Lewis, solicitors of record for the Edison interest.

The decision in the American court gives the monopoly of the incandescent electric light to the Edison Company in this country; while the English decisions have done the same thing in England. Mr. Edison is now recognized as the inventor of the incandescent system of lighting, and discoverer of the low pressure, high resistance and the filament principle. The Edison Company gains by this decision probably \$40,000,000 to \$50,000,000 back damages, and \$2,000,000 each year.

A Storage Battery Whose Current Will Last From Three to Five Years.

The following, taken from the *Sun*, bears all the impress of truth reflected from that luminous sheet, with whose motto, "If you see it in the *Sun*, it's so," New Yorkers are pretty familiar. At any rate, people knowing what proportions this industry is assuming hope Dr. Bryan's invention will fully meet their expectations. It says:

Dr. Winfield S. Bryan, a local electrician, has made a discovery in the shape of a practically self-sustaining storage battery. He has had long experience in electrical matters. He has been working on his in-

vention for two years, and he now promises to work wonders in the mechanical world.

Dr. Bryan's battery is wholly different from anything of the kind heretofore manufactured. Not yet being protected by patents he will not tell what his secret is, except in a general way. A combination of chemicals, altogether new, is made, and their action is so slow, yet strong, that the current generated will last with constant use, from estimates now made, from three to five years.

An ordinary battery is good only for twelve hours. The inventor throws a little light on his secret by saying that a reversal of the current causes a reoxidization of the chemicals, thus strengthening the battery.

To Guard Against the Baggage Smasher.

The Bradbury-Stone Storage Battery Co., of Lowell, Mass., are constantly devising means to guard against the carelessness of express companies who are the *bête noire* of the storage battery business.

Mr. J. S. Stone, Secretary of this company, called recently to see us and in reference to this subject said, "It is absolutely necessary that a battery should be ironclad, so to speak."

He had with him a small cell, which he showed a PHONOGRAM reporter, that seemed to answer every requisite.

The battery is imbedded in a rubber cushion, has strong flexible acid proof lugs, insulated from the cover. It is set up in a handsomely finished hardwood cabinet, dovetailed and glued.

A hard rubber tubing one and one-quarter inch in diameter with a threaded cover or cap to screw on, prevents spilling of the acid and exposes the interior of the cell so that the depth of the acid solution can be obtained by simply removing the cover. Nothing could be more convenient and durable. The efficiency of the battery remains unquestioned.

The Bradbury-Stone Co. are filling a large number of orders for these improved cells.

The Future Typewriter of Aluminium.

This metal is beginning to receive from manufacturers, architects and artisans of every class the recognition to which its merits entitle it. The description of a boat constructed of aluminium appeared in a former issue of THE PHONOGRAM, and it is a well-known agent of the decorative artist, is employed in various handicrafts and has been the subject of elaborate investigation by Mr. Bolland, who presented the result of his researches to the Academy of Sciences at Paris. He found that with regard to its corrodibility, it is not so easily attacked as iron, copper, lead, tin or zinc, by air, wine, water, beer, coffee, milk, oil, butter, gas, saliva, etc. Vinegar and salt attack it, but not to such an extent as renders its use undesirable for domestic cooking utensils and similar purposes. The Germans condemn it for these uses, but the French do not sustain their opinion. In the United States, a typewriter has very recently been manufactured entirely of aluminium that weighs only ten pounds and offers excellent resistance to the strain to which continual use subjects all machinery.

As a creditable example of New York journalism combining the *utile et dulce* and drawing from all quarters of the globe and all ranks in life ideas illustrative of whatever passes that may tend to build up trade and attract attention to its establishment, commend us to *Raymond's Monthly*. Its cuts show as much dexterity in art as they do keenness of wit.

Dr. J. Mount Bleyer has written an article for the *American Athenæum* and THE PHONOGRAM on "The Phonograph as a Collector of the Voices of Great People," thus furnishing the foundation of a phonographic library. This article will appear simultaneously in the November issue of these magazines.

The Eastern Electric Light and Storage Battery Co., Lowell, Mass., seems to be gaining a great headway among the phonograph companies, who pronounce this battery as "a model of excellence."



THE TYPEWRITER.

BY G. W. N. YOST.

Typewriting is a subject that deeply interests all boys and girls before they finish their common school education, for, with its twin brothers, shorthand and the phonograph, it provides such an easy and rapid means of promotion. All of you can doubtless recall an instance in your own neighborhood, where some ambitious boy or girl took up the study of shorthand and typewriting. These proved to be stepping stones from which they were in short time advanced from the position of a mere clerk, where they otherwise would be to day, to that of amanuensis or correspondent; then to the position of confidential or private secretary, and finally to a partnership or the trusted official of the firm or company. Or, if they happened to get into another channel, they rose from the general starting point—that of amanuensis—to be a court reporter, which is very remunerative and honorable, and from that position it is an easy step to that of attorney-at-law or editor of a newspaper. Thousands of men and women occupying

prominent and lucrative positions in the business and political world owe it principally to the assistance of the typewriter and shorthand.

Look back fifty or one hundred years, or even less, and see how limited were the resources of a boy or girl, especially the latter, who happened to be thrown on the world to look out for "number one."

Compare it with the present time, when an inexperienced youth of sixteen or seventeen can with a few months' study obtain a position which will pay him from two to four dollars per day. This is more than many able-bodied men can make who have spent years in learning a trade, or who work hard all day with the hod or shovel.

You can then see what an immense advancement has been made towards putting girls and boys on an equality with men, and what you all owe to these two inventions.

The typewriters that you see to-day are greatly improved over the first crude machines. They embody a great deal of

thought and experiment and represent the outlay of vast sums of money. A brief account of the growth and development of some of the machines may be of interest to you.

When our attention was first called to the odd and clumsy looking machine first brought out at Milwaukee, in 1868, by Sholes and Glidden, it was looked upon as a mere toy. It was thought to be a good thing to show up the common mistakes people make in spelling and punctuation, and might therefore be useful in the education of the young, but very few thought it would ever be used to any extent by business or professional people. When we began to see the large field of usefulness it might some day occupy and outlined the same to a few friends, we were laughed at, ridiculed and pronounced visionary, and that word "visionary" has followed us ever since.

The boys and girls of the present day cannot imagine, when they see the typewriter in use in every large business house, how great was the prejudice against it, and how difficult it was to get the machines so far perfected that they could be used, and then to get them introduced.

When people began, with a good deal of hesitation and distrust, to send out their letters printed, they were frequently returned by the indignant recipients, who felt insulted by the implication that they could not read writing and that it was necessary to print letters to them. Yes, indeed, people felt that it was a reflection on their education, and it was not considered polite or in good taste to send out printed letters. It might do for circulars. We know young ladies to day who would be greatly offended and who would make it pretty "warm" for the young man who would dare to send them a letter printed in cold, unfeeling type.

We think the introduction of the type-

writer in this field of literary (?) work will be very slow, and, in fact, we are willing to count it out when it comes to writing love letters.

This same idea that it is not in good taste to write your letters with a typewriter exists to a certain extent in foreign countries, and in England, we are told, lawyers who may find it convenient, on account of the saving in time and space, to prepare their manuscript on the typewriter, have them written out in long-hand before making use of them. Don't you think they must be a better class of penmen over there than the average lawyer in this country?

When the first machine, afterwards called "Remington No. 1," was put on the market, it found few friends. After struggling a few years, it was acknowledged by the makers to be a failure from a business standpoint. About three thousand had been sold or given away, most of which were afterwards exchanged for the later machines. You will seldom see one of them now in use.

One thing that prevented its general adoption was the fact that it used only capital letters. How to get the small letters without making the machine too large and having too many keys was the problem.

When we finally thought of putting two type on one bar and arranging the roller or platen so that it could be shoved back by means of a shift-key so that the capital letter would print instead of the small letter, it was at once acknowledged that something might be done with it. How we took these improvements to the factory of E. Remington & Sons, Ilion, N. Y., and contracted with them to make the improved machine and allow them to call it the "Remington" is a matter of history which all of you may know. The machine, which was put upon the market by E. Remington & Sons about thirteen years

ago, and called the "Remington Standard Typewriter No. 2," is as familiar to you as the sewing machine.

It has undergone since that time but few and comparatively unimportant changes. It is to-day, practically, the same machine, working on the same principle and with the same inherent peculiarities that have always characterized it.

We were alive to the fact that the use of a shift-key was in some respects objectionable. It requires the use of two hands, or two or more motions to produce a capital letter. It also requires a loose carriage which has to slide backward and forward, and which has always been more or less shaky.

We began to work to see if this difficulty could not be overcome, and the result of this investigation was the Caligraph in 1880. It was the original intention to name it the "Yost," but we thought best to reserve that name, so the name "Caligraph" (the beautiful writer) was given to it. You are all familiar with this machine. While it has more positions for the fingers to learn, it does away with the troublesome "shift" and has a carriage which does not "wobble." It is generally believed to be more durable, and to maintain its alignment better, because its type-bars are better supported and the carriage more rigid. While the Caligraph has found many thousands of staunch friends and users, we have always felt that it was not as easy to learn as the other machine, because there were so many more positions or keys to locate, and because the different rows of keys did not all require the same amount of force to print properly. Its key levers varied so in length, from the short ones at the bottom to the long ones at the top of the keyboard, that if you would strike the upper keys as hard as it was necessary to print with the lower ones, the writing would be

too heavy and vice versa. This, of course, has been largely overcome, but still it will always exist to some extent. Then, again, we avoided putting any more characters on it than was absolutely necessary, for it made the machine too large and inconvenient to handle. It originally had but seventy-two characters, while the Remington had seventy-six. Of course you must understand that it was no easy matter to bring the machines to the degree of perfection now attained. A great many parts and designs were made and discarded. You would hardly believe the amount of time and money that was expended to bring them to the state of perfection you see to-day.

The earlier machines all printed through an inked ribbon. Most of them do yet. The ribbon itself has been greatly improved since those early days. Various attempts were made to discard the ribbon, but it was not successful, except in the cheaper machines worked with one hand.

We never looked upon the ribbon in any other light than that of a substitute. It was not like real printing. It could never produce as neat and uniform work as the type direct. It was not like the printing press. It would never do to use a ribbon on that. Therefore, we were never fully satisfied. We thought we had produced some pretty good machines, but they were never up to our highest ideal.

A few years after the Caligraph was offered to the public and found such a cordial reception, we developed a very peculiar mechanical movement. It has since been styled the "grasshopper" movement. Experiments were made with it which enabled us to turn the type face outward, away from the point of printing, instead of facing it, as in the others. This allowed us to use in place of the ribbon a piece of felt pad, properly inked, against which the type struck and rested when not in use. The first machine we made

with this form of type-bar satisfied us that great progress had been made.

Then a center guide, or piece of steel with a hole in the center, just large enough to admit the type and hold it securely, was brought into use.

We found this made the line of printing, or alignment, as it is called, more permanent. It also did away with the necessity for tight bearings in the type-bars. We found it worked easier and faster and proved to be much more durable. Any ordinary wear of the parts did not affect the alignment. It had to print in line.

It was found by the time the first machines were completed they had cost a large amount of money, and then they did not satisfy us.

We would theorize and plan the best we could, but when we came to an actual test, some nimble-fingered girl or boy would point out some defect we had overlooked. The final result of all this you will see in the "New Yost." This machine has found a great many very strong friends.

All of you who have ever examined the typewriter and given it any thought have probably looked forward to the time when we would have a machine which would do everything that was required of it, and at the same time be entirely free from the defects we are so familiar with in all the machines that have thus far been produced. We believe you will agree with us that the "typewriter of the future" will not employ a ribbon, will print from steel type direct and will never print out of line besides combining in itself all the smaller yet important advantages now seen in the numerous machines. We are in hopes that the "New Yost" will reach this ideal.

You must know, of course, that there are a great many typewriters besides the three we have been discussing. All of them have some special features and advantages not found in any of the others. They are all more or less meritorious.

There is another class of typewriter called "wheel machines," on which we have not dwelt, preferring to discuss only those with which we have been identified.

We desire to impress upon you that the typewriter is hardly out of its cradle. Its importance in the business world to-day is not realized, and the extent to which it will some day be used, the most enthusiastic have not been able to comprehend. You will probably live to see that more typewriters will be sold during the coming thirty years than there have been sewing machines during the past thirty years. They will not only be in the office of all business and professional people, but also in all schools and colleges. No home will be considered complete without its typewriter for the children to practice on as soon as they are able to read, for the typewriter is the best known means for teaching children spelling, punctuation, paragraphing, capitalizing, the proper division of words and other things which all children should know.

Telegraphic messages will be sent by it instead of the Morse alphabet, and they will be printed out at the receiving station just as they are sent. The recording of legal documents and government records will be printed in large books by means of the typewriter, and most of the books in business houses will be kept in the same way. A machine has already been invented for this purpose, though it may not as yet be practicable. The pen will be virtually discarded and the reign of the poor penman who takes up so much of our time to decipher his hieroglyphics will cease.

At the risk of being again thought "visionary" we earnestly advise all girls and boys not to consider their education complete until they have learned to be expert in the use of the typewriter. If you do not intend to become stenographers or amanuenses, you will need the knowledge in business as well as in private life. Any girl or boy who is really expert, who can write seventy to one hundred words per minute correctly from dictation, is pretty well educated and fitted for a life of usefulness, but do not forget that correctness is far more important than speed, is absolutely necessary to enable you to compete with others, and to secure the best positions.

The world has not as yet awakened to the wonderful speed and usefulness and wide distribution which in time this little machine is destined to attain.

PHONO CHAT.

The New England Phonograph Co.'s exhibit at the Massachusetts Charitable Mechanics' Fair, which will remain open during the month of November, is both creditable and successful. One space is devoted entirely to the commercial phonograph. This is tastefully arranged with Brussels carpets and portieres, and decorated with Japanese fans and umbrellas and a large portrait of Mr. Edison hangs on the walls. The whole is in charge of Mr. F. A. Ashcroft, of the central office, who is constantly on hand to reply to communications and give such as desire an opportunity to see the actual use of the machine. Letters are dictated to the phonograph every five minutes by Mr. Ashcroft and given to typewriters, three in number, to transcribe, and these are passed to the public.

By courtesy of the Smith Premier Typewriter Co., three of these splendid machines have been put in the exhibit free of expense.

In a different location in the building the company has placed seventeen automatic phonographs and one multiple tube machine, which are attended by Messrs. Reed and Walker. Many curious remarks are made by people who listen to the wonderful records. The band records take well, also the "Casey" series which nightly cause shouts of laughter. The wonderful songs of W. F. Denny are not equalled by any phonograph company.

* * *

A paper was read by Dr. J. Mount Bleyer before the American Therapeutical Association, on October 5th, at the Academy of Medicine, on "The Fundamental Principles Underlying the Phonograph and Its Adoption in Medical and Other Sciences." A synopsis of this lecture will be given with illustrations in the November issue of THE PHONOGRAM. Also an account of Dr. Bleyer's wonderful phonographic library, containing the records of more celebrated personages than any in existence.

* * *

The regular meeting of the officers of the New England Phonograph Co. was held at the offices of Messrs. Lowrey, Stone & Auerbach, Drexel Building, New York City, on October 19th, when the following officers were duly elected: President, General A. P. Martin; vice-president, Mr. J. B. Metcalf; treasurer, Mr. Eugene N. Foss; secretary, Mr. L. E. Evans. The general manager submitted his report, showing the

company to be in a very satisfactory condition both financially and otherwise.

* * *

The annual meeting of the New England Phonograph Co. was held in Gardiner, Me., on the first Monday of October, and the reports of the president and treasurer for the preceding year were submitted and unanimously adopted. The following directors were chosen for the ensuing year: A. P. Martin, J. B. Gleason, J. B. Metcalf, Bleecker Van Wagenen, J. H. Higgins, Schuyler Quackenbush, Eugene N. Foss, A. M. Sherwood, J. H. Lee, Chas. A. Cheever, J. S. Auerbach, Homer W. Nichols, L. E. Evans. Mr. George L. Rogers was chosen clerk of the corporation for the ensuing year.

* * *

Rev. T. N. Eaton, pastor of the Oakland M. E. Church, Pittsburgh, is using the phonograph with considerable success in taking his sermons. He has a speaking tube running from the pulpit to the basement, where his son repeats the sermon to the phonograph. This is verbatim reporting. He said recently to a PHONOGRAM reporter that after the *first trial* he was perfectly satisfied with the result. The whole sermon and two prayers were taken down with perfect ease.

* * *

The annual meeting of the stockholders of the Columbian Phonograph Co. was held at the principal office of the company, Washington, D. C., on October 17th.

The old Board of Directors was re-elected as follows:

E. D. Easton, Chapin Brown, Benjamin Duffee, C. H. Ridenour and W. H. Smith.

The annual report showed a net increase in business of twenty-five per cent over the previous year, without substantial increase in expenses. The company earned during the year between ten and twelve per cent on its capital stock.

Special attention has been paid to the development of the business in Baltimore, which is in a most flourishing condition.

The sale of musical records shows a very large increase over the previous business year; indeed, progress has been the watchword along every line of the enterprise.

The directors organized by re-electing officers as follows:

President, Edward D. Easton; vice-president and treasurer, Wm. Herbert Smith; secretary, R. F. Cromelin.

* * *

The novel experiment tried by the New Eng-

land Phonograph Co. a year ago is being repeated in the foyer of the Park Theatre, Boston, that is, several automatic phonographs are placed there, which reproduce the music of the Opera "1492," now being played by Rice's Prize Co. Several members of the company have sung to the phonographs and these songs are reproduced for the benefit of the public. This creates a desire on the part of some who have not heard the opera to see it and to criticise the reproductions.

* * *

Dr. J. F. Cowan, of the M. P. Board of Publication, Pittsburgh, Pa., has two phonographs, a motor and a treadle. This gentleman told a Pittsburgh agent recently, that he could do his work with much more ease and less fatigue than formerly, and that he believed that it would be impossible to get along without the machines.

* * *

The phonograph is being used with great success by the reporters of the Superior and Circuit Courts of Milwaukee, Racine, Kenosha and Elkhorn, Wisconsin.

* * *

Mr. H. D. Goodwin, who does the largest general reporting business in Wisconsin, dictates his work to the phonograph. He dictated seven thousand words to the machine on October 3d in forty minutes, and the transcript was returned in a very short time thereafter without an error. This is at the rate of one hundred and seventy-five words a minute and is about his average rate of dictation to the machine.

Dictation at the rate of two hundred and twenty-five words a minute to the machine has been transcribed from the phonograph by Mr. Goodwin's corps of transcribers without error.

* * *

With an educated and accomplished transcriber it is never necessary to compare phonograph transcript. It is always necessary to compare shorthand transcript.

* * *

Col. Chas. King dictates all his novels to the phonograph.

* * *

The great lithographing house of Beck & Pauli find the phonograph especially serviceable for foreign correspondence.

* * *

The Edward P. Allis Co., the largest engine-makers in the country, use the phonograph.

* * *

The Wisconsin Phonograph Co. is using an entirely novel start and stop device which can

readily be attached to any phonograph. The device is very cheap. It stops the main shaft without raising the needle from the cylinder; thus the transcriber never loses place. The stop and start are instant and automatic.

Personals.

Mr. Thomas R. Lombard has returned to Chicago, where he is actively engaged at present in arranging for the exhibit of phonographs at the World's Fair. Mr. Lombard will probably spend much of his time hereafter in that city.

Colonel August N. Samspon paid his respects to THE PHONOGRAM recently. The Colonel is looking well and is evidently pleased with the progress which the phonograph is making under the new regime, namely, unrestricted sales.

Mr. Walter S. Gray, manager of the Chicago Central Phonograph Co., has sent an interesting letter which is crowded out of this issue, but will appear in November. Mr. Gray says: "Prospects were never brighter than now for a prosperous business. All our rented machines are being used and many of them will be bought, as we have now adopted the sale system."

Mr. R. L. Thomas, of the North American Phonograph Co., who has recently returned from trip to the Michigan and Western and Eastern Pennsylvania Phonograph Companies, left last week for the South, visiting the Old Dominion Co. in Virginia and also the Georgia and Alabama Companies.

Mr. H. J. Conyngton, of Galveston, Texas, who has been connected with the phonograph more or less since it was first introduced, called on us last week. Mr. Conyngton is a brother of the general manager of the Texas Phonograph Co. and also of Mr. Hugh R. Conyngton, secretary of the Louisiana Co. He has relinquished the phonograph business for the nonce, and has come to New York for the purpose of studying medicine. He still takes a lively interest in matters pertaining to the phonograph, and will look after the interests of the Texas Co. while here.

Mr. George B. Motheral, president of the Western Pennsylvania Phonograph Co. and general agent of the Densmore typewriter, gives information concerning the success of the Densmore in his territory. He says persons wishing to decide as to the supremacy among all typewriters should try them all before arriving at a conclusion. A board of experts appointed by the government to test them all pronounces the "Densmore" the best, its speed, durability and perfect alignment rendering it admirable to work with.



"My Motto is One Business for One Man."

WASHINGTON, D. C., Aug. 14, 1892.

Dear Sir:—I have noticed, at various times, copies of the phonograph magazine left at my office. I have several times returned it to the post-office. I never subscribed for this, and would like to know why you send it to me. I would not give a d— for the magazine or the phonograph. Resp'y, P. J. LOCKWOOD.

OTTAWA, CANADA, December 10, 1892.

Editor PHONOGRAM:—We are glad to learn that Mr. H. Miner has dropped into line, and is keeping pace with the march of progress. A practical stenographer who does not recognize the value of the phonograph, and avail himself of the aid it supplies, is like a survival from the sixteenth century, who would rather travel on horseback than on a Pullman car. He is losing valuable time and is wasting his energy in an age when life is a rush from swaddling clothes to shroud.

GEO. C. HOLLAND.

BRADBURY-STONE STORAGE BATTERY Co.

LOWELL, MASS., October 17, 1892.

Editor PHONOGRAM:—The news from Dover, N. H., is to the effect that a car equipped with our system has been doing wonderful work.

A road comprised of hills only—one six per cent, two seven per cent, one nine and one-half per cent, one eleven and one-half per cent and others varying from one to five per cent were easily ridden and excellent time made with the same. Size of cell that is used for phonographs delivering at times one hundred and forty ampere currents.

Yours very truly,

FRANK J. STONE, Secretary.

Authors and Publishers.

Mr. James L. Andem, of Cincinnati, has presented in book form to the public a manual which not only fills the functions of a teacher, to all desiring to learn how to operate the phonograph, but answers as a *vade mecum* for persons whose memories need refreshing after having acquired the art.

It gives explicit and important details, furnishes a vocabulary for this new profession, puts the student and his instrument at one with each other, and so encourages people to buy, because they see that the pathway has been cleared for them, and they can go on their journey without encountering obstacles.

The Cosmopolitan embraces, as usual, a great variety of literary pabulum. One must indeed be difficult to entertain, or crammed with learning; if he cannot therein find the wherewithal to please and satisfy.

The topics run from grave to gay, "from lively to severe," and rather remind one of the diverse elements included in one of Shakespeare's dramas, where sentiment, passion and the whole train of human characteristics are commingled and displayed in turn.

Such well-known writers as Murat Halstead, Edgar Fawcett, *et id omne genus*, constitute a tower of strength to any enterprise, whether literary, scientific or artistic.

It is difficult to estimate the value of the subject matter included in the October number of the *Review of Reviews*. The average American thirsting for just such information and knowledge can here quench his thirst. First and foremost, as being of paramount importance, the notice "of the first parliament of religions," giving a just idea of the scope that congress designs to reach, is most satisfying, inasmuch as it shows how wide and deep will be the effort to carry out its object. The article of Count D'Alviella is worthy of his theme, and when he speaks of the attempt made by science to uproot religion, and the revenge taken by the latter, he confers a benefit by directing the minds of the reflecting world to the issue.

Mr. Stead prepares an analysis of the material composing the British Cabinet which is doubtless correct. The opening paragraphs were too speculative and vague to repay certain readers, but we have only to thank him for what comes after, since he has means of obtaining facts relating to those men that others are unable to secure.

Reading Notices.

There are nearly a quarter of a million typewriters in use. Jno. Undewood & Co., 30 Vesey street, supplies these machines with more ribbons than all the rest of the manufacturers combined. He was one of the early users of the phonograph for his correspondence and has steadily increased their number.

During the Columbian celebration in this city G. A. Hill, manager of Typewriter Exchange, 10 Barclay street, was overrun with business. His prices and courteous attention to customers guarantees him against dull seasons.

NEW ENGLAND PHONOGRAPH CO.,

657 Washington Street,
BOSTON, MASS.

Phonographs sold (without restrictions).

Phonographs rented for Commercial purposes.

Phonograph Records manufactured and for sale in larger variety and of finer quality than to be found anywhere else in the United States and at **Lower Prices.**

Phonograph supplies on hand and for sale.

Send for circulars, read, be convinced, purchase or rent.

A PRACTICAL GUIDE TO THE USE OF THE EDISON PHONOGRAPH, BY JAMES L. ANDEM.

President and General Manager of the OHIO PHONOGRAPH COMPANY.

For table of CONTENTS, see September number of "THE PHONOGRAM."

"Will answer a decided necessity in the Phonograph business."—KANSAS PHONO. Co.

"Your experience has enabled you to treat the subject accurately and comprehensively."—COLUMBIA PHONOGRAPH Co.

"Of great value to all users of the Phonograph."—HOLLAND BROTHERS.

Bound in cloth, illuminated title, in gilt, 64 pages, with references to 33 separate parts of the Phonograph, illustrated by cut and figures. Price \$1.00, postage paid. Address

The Ohio Phonograph Co.,
220 Walnut Street, CINCINNATI, O.

The North American Phonograph Co.,

OWNERS OF THE PATENTS OF THOMAS A. EDISON,

— FOR —

Recording, Perpetuating and Reproducing Articulate Speech and other Sounds.

Principal Offices: 44 BROAD STREET, NEW YORK.

LIST OF AGENTS

(Each exclusive for the Territory named).

NAME.	ADDRESS.	TERRITORY.
Alabama Phonograph Co.,	Anniston, Ala.,	Alabama.
Conyngton, Sellers & Con- yngton,	Jackson, Miss.,	The State of Mississippi.
Columbia Phonograph Co.,	Washington, D. C.	Delaware, Maryland, and Dist. of Columbia.
Colorado and Utah "	Denver, Col.,	Colorado.
Chicago Cen'l "	Chicago, Ill.,	Cook County, Illinois.
Eastern Penn'a "	Philadelphia, Penn.,	Eastern part of State of Pennsylvania.
Florida "	Jacksonville, Fla.,	Florida.
Georgia "	Atlanta, Ga.,	Georgia.
George W. Grant,	246 5th St., L'sville, Ky.	Tennessee.
Holland Bros.,	Ottawa, Ont.,	Canada.
Iowa Phonograph Co.,	Sioux City, Iowa,	Iowa.
Kansas "	Topeka, Kan.,	Kansas and New Mexico.
Kentucky "	Louisville, Ky.	Kentucky.
Leeds & Co.,	Indianapolis, Ind.,	Indiana.
Louisiana Phonograph Co.,	New Orleans, La.,	Louisiana.
Michigan "	Detroit, Mich.,	Michigan.
Missouri "	St. Louis, Mo.,	Missouri, Arkansas and Indian Territory.
Minnesota "	Minneapolis, Minn.,	Minnesota.
Montana "	Helena, Mont.,	Montana.
New England "	Boston, Mass.,	New England States.
New York "	New York, N. Y.,	New York State.
Nebraska "	Omaha, Neb.,	Eastern part of State of Nebraska.
New Jersey "	Newark, N. J.,	New Jersey,
Ohio "	Cincinnati, Ohio,	Ohio.
Old Dominion "	Roanoke, Va.,	Virginia, North and South Carolina.
Pacific "	San Francisco, Cal.,	Arizona, California and Nevada.
Spokane "	Spokane Falls, Wash.,	{ Oregon, East 44° long.; Washington, 44° long., and Idaho.
South Dakota "	Sioux Falls, So. Dak.,	South Dakota.
State Phono. Co., of Illinois,	Chicago, Ill.,	State of Illinois, exclusive of Cook County.
Texas Phonograph Co.,	Galveston, Texas,	Texas.
West Penn. "	Pittsburgh, Penn.,	West. part of State of Pa. and West Virginia.
Wisconsin "	Milwaukee, Wis.,	Wisconsin.
West Coast "	Portland, Ore.,	{ Oregon, West 44° long.; Washington, West 44° long.
Wyoming "	Cheyenne, Wy. Ter.,	Wyoming.

We deal with the public only through our Agents. Please note list carefully before entering orders, and order from the Agent for State in which you reside or wish to use the machines.

"IMPROVEMENT IS THE ORDER OF THE DAY."



The New Special No. 3 Caligraph has met with universal favor because it has two interchangeable platens, which can be adjusted in less than thirty seconds, enabling an operator to produce the work of two machines from one; because it has a positive ribbon movement, which presents a fresh surface of the ribbon for each type impression; because it has a wheel dog stay and six additional characters; because it has a hollow type bar, which gives lightness and strength; because it has an adjustable type hanger, which gives permanent alignment; because it has a key for every character and an adjustable feed guide. In fact, the Special No. 3 Caligraph is the acme of perfection in typewriters.

SEND FOR ILLUSTRATED CATALOGUE TO

THE AMERICAN WRITING MACHINE COMPANY,
237 BROADWAY, NEW YORK,

Branch Offices: { 1003 Arch Street, Philadelphia
14 W. Fourth Street, Cincinnati. }

Branch Factory, Coventry, England.
Mention THE PHONOGRAM.

Correspondence, briefs, specifications or literary composition may be recorded on the phonograph, to be transcribed later by any one who can operate a typewriter. In this field it is steadily making its way. Business machine, with Storage Battery, etc., sold or leased. Prices given on application to

THE TEXAS PHONOGRAPH CO.,
THOS. CONYNGTON, Genl. Man. GALVESTON, TEXAS.

THE PHONOGRAPHIC MAGAZINE,

Jerome B. Howard, Editor.

The authentic organ of the Benn Pitman System of Phonography.

40 Pages, Monthly. \$1.50 a Year.

ADDRESS

THE PHONOGRAPHIC INSTITUTE,
Cincinnati, O.

TYPEWRITERS.

Largest like establishment in the world. First-class Second-hand Instruments at half new prices. Unprejudiced advice given on all makes. Machines sold on monthly payments. Any instrument manufactured shipped, privilege to examine. EXCHANGING A SPECIALTY. Wholesale prices to dealers. Illustrated Catalogues Free.

TYPEWRITER HEADQUARTERS, { 31 Broadway, New York.
186 Monroe St., Chicago.

TEN REASONS WHY
EDISON'S PHONOGRAPH
IS SUPERIOR TO ANY STENOGRAPHER.

1. SPEED.

You can dictate as rapidly as you please, and are never asked to repeat.

2. CONVENIENCE.

You dictate alone, at any hour of day or night that suits your convenience.

3. SAVING OF OPERATOR'S TIME.

During dictation operator can be employed with other work. Operators make twice the speed in writing out that is possible from shorthand notes.

4. ACCURACY.

The phonograph can only repeat what has been said to it.

5. INDEPENDENCE.

You are independent of your operator. It is easy to replace a typewriter operator, but a competent stenographer is hard to find.

6. ECONOMY.

The cost of an outfit added to salary of operator is less than that of a stenographer, and results obtained far superior.

7. SIMPLICITY.

The method is so simple that no time need be lost in learning it. You can commence work AT ONCE.

8. TIRELESSNESS.

The phonograph needs no vacation. Does not grumble at any amount of over-work.

9. PROGRESSIVENESS.

The most progressive business houses are now using phonographs, and indorse them enthusiastically. Do you want to be up with the times? If so,

10. FREE TRIAL.

You can have phonographs sent you on trial, and return them if they fail to do what is claimed.

PHOTOGRAPHS

from the original plates, of the World's greatest inventor,

THOMAS A. EDISON,

taken at different periods of his life, with autograph attached. **His Birthplace, Interior and Exterior Views of "Glenmont,"** his present beautiful home in Llewellyn Park, N. J., and surroundings; of his great **Laboratory**, at Orange, N. J., with its wondrous inventions, the **Phonograph**, etc., etc., which cannot be obtained elsewhere,

These photographs are Copyrighted, limited in number and will be sold to the first applicants at the following prices:

Library, Electrical Dept., Chemical Dept., Shops, (interior at Laboratory), Outside views of Laboratory, The Edison "Den," or Study, Residence of Edison, Birthplace of Edison, Edison at work in Chemical Department, Entrance to Llewellyn Park, "Glenmont," Residence of Edison, Edison listening to the Phonograph, Edison at 14, Grand Trunk Herald, printed by Edison at 14.

11 x 14 on 14 x 17 Cards,	-	\$2.00
7 x 9 on 8 x 10 gilt edge, or 10 x 12 plain,	-	1.50
10 x 12 bust, Mr. Edison,	-	1.50
8 x 10 " " "	-	
with Autograph,	-	1.25
5 x 7 bust, Mr. Edison,	-	1.00
Cabinets,	-	.75

Orders promptly filled by V. H. McRAE, Manager, "PHONOGRAM,"
Room 87, World Building, New York.

(CALL AND SEE.)